SET : 1

1: There is a toy train that can make 10 musical sounds. It makes 2 musical sounds after being defective. What is the probability that me musical sound would be produced 5 times consecutively? (1 of_____)?

2: Peter and Paul ate two friends. The sum of their ages is 35 years. Peter is twice as old as Paul was when Peter was as old as Paul is now. What is the preset ate of Peter?

3:the ages of two friends is in the ratio 6:5. The sum of their ages is 66. After how many years will the ages be in the ratio 8:7?

4: There are 5 materials to make a perfume: Lilac, Balsalmic, Lemon, Woody and Mimosaic. To make a perfume that is in demand the following conditions are to be followed: Lilac and Balsalmic go together. Woody and Minosaic go together, Woody and balsalmic never go together. Lemon can be added with any material. All of the following combinations are possible to make a perfume EXCEPT:

1) Balsalmic and Lilac
2) Woody and Lemon
3) Mimosaic and Woody
4) Minosac and Lilac

5: A girl has a make pizza with different toppings. There are 8 different toppings. In how many ways can she make pizzas with 2 different toppings?

6: A triangle is made from a rope. The sides of the triangle are 25 cm, 11 cm and 31 cm. what will be the area of the square made from the same rope?

7: what is the distance between the z-intercept from the x0intercept in the equation ax+by+cz+d=0.

8: An athlete decides to run the same distance in $1/4^{th}$ less time that she usually took. By how percent will she have to increase her average speed?

9: A horse chases a pony 3 hours after the pony runs. Horse takes 4 hours to reach the pony. If the average speed of the horse is 35 kmph, what s the average speed of the pony?

10: There is 7 friends (A1,A2,A3…….A7). If A1 have to have shake with all with out repeat. How many hand shakes possible?

11: there are two pipes A and B. If a filled 10 liters in an hour B can fills 20 liters in same time. Likewise B can fill 10, 20, 40, 80, 160, .if B filled in (1/6) the of the tank in 3 hours, how much time will it take to fill completely?

12: 10 tables, 4chairs per table, each table has different number of people then how many tables will left without at least one person.

13: The age of two friends is in the ratio 5:6, after how many years will the ages be in the ratio 7:8?

14: A men whose age is 45 yrs has 3 sons named johan, Jill and Jack. He went to a park weekly twice. He loves his sins very much. On a certain day he finds shopkeepers selling different things. An apple cost 1penny, 2chocalate costs 1penny, & 3 bananas cost 1penny. He has bought equal no. of apple, chocolate and banana for each son. If the total amount he invest is 7 penny then how many he has bought from each piece for his son?

a) 1app, 1 chow, q banana
b) 1app, 2cho, 3banana
c) 1app, 2cho, 1banana

15. A scientist was researching on animal behavior in his lab. He was very interested in analyzing the behavior of bear. For some reason he traveled 1mile in north direction and reached at North Pole. There he saw a bear he then followed the bear around 1hr with a speed of 2km/hr in east direction. After that he traveled in south direction and reached at his lab in 2 hrs. Then what is the colour of the bear?

a) white, b) black, c)grey, d) brown

16: Ina particular city there are 100 homes numbered from 1,2,3……..100. The city was build by a builder from Chennai. There was 4 to 5 shops in the town which was build by a builder from Mumbai. THE 2^{nd} builder in can build in ½ time as compared to 1^{st} builder. If the 2^{nd} builder builds in 15 days, then how many 2's are used by the builder from Chennai in numbering the 100 homes?

a) 17, b) 18, c) 19 d) 20

17: Mr. Das has 3 sons whose ages are respectively a, b, c. The grandfather has bought a cycle for the eldest son, mother has bought a bag for the youngest one which cost Rs. 150/. The sum of two age of the elder son and one son is 15. The difference of the age of sons is 3 & 2. Then what of the age of the elder son?

a) 10, b) 11, c) 12, d) 13

18: We all know that Aryabhatta is the greatest mathematician who belong to India. When his daughter Mayabati was in her teen age he discovered a problem. At that the time the age of Mayabati is a prime number, let that age is a . After some years her age becomes b. then Arya Bhatta was able to solve that problem wit the help of he daughter Mayabati. If a-b=5 & product of a & b is 26 then what is the sum of two squares?

19: How many 13 digit numbers ate possible by using the digits 1,2,3,4,5 which are divisible by 4 if repetition of digits is allowed?

20: (40*40*40-31)/40*40*40*31+31*31)=?

21: x/2y=2a, then 2x/x-2ay=?

22: Mr. behera wants to build a house for his wife. In this there are 5 rooms each having equal area. The length of each room is 4m,, breadth is 5m. The height of the rooms is 2m. If to make a sq meter we need 17 bricks, then how many bricks are needed to make the floor of a particular room?

23: On Tuesday College parking palace have only 4wheelers and bicycles, total no of wheels was 182, then what is the possible no of bicycles?

a) 20, b)19, c) 18, d)17

24: On average age something like a, b, c weighted separately 1st a, b, c, then a & b, then b & c , then c 7 a at last abc, then last weight was 167, then what will be the avg weight of the 7 weight?

25: Arrange the jumbled letters to make a perfect word RGTEI. Find to which category it belong?

a) Town, b) vegetable, c) animal, d) bird

26: 3 persons a, b, c were there A always says truth, B lies on Monday, Tuesday and Wednesday. But C lies on Thursday , Friday and Saturday. One day A said " that B and C said to A that" B said" yesterday way one of the days when I lies", C said that" yesterday way one of the days when I lies too". Then which day was that?

a) Sunday, b) Thursday, c) Saturday d) Tuesday

27: A mathematical series present like
8 6 17 35 30 71 _ 143.

28: One man want to build a wall the length and breadth of the wall are 20, 30 respectively, he need 35 bricks for one square centimeter then how many bricks he need?

29: One person had three children. He has 7 pennies. Then how he can distribute the fruits among his child by following conditions.

a) He can get one water millon for 1 penny.
b) He can get 2 oranges for 1 penny.
c) He can get 3 grapes for 1 penny.

30: 1/3rd of a number are more 3 than the 1/6th of a number then find the number?

31: In T nagar many buildings were under residential category for buildings they number as 1 to 100. For shops, corporation numbered between 150 and 200 only prime numbers. How many time 6 will appear in building numbering?

32: One grand father has 3 grand child. Eldest one ate is 3 times of the youngest child age. Sum of two youngest child age is more than two of eldest one age. Find the eldest one age?

33: The difference b/w two numbers is 4. And their product is 17. Then find the sum of their squares?

34: Find category from following Jumbles=d letters, PARAKEET

35: Which is the smallest digit when divides the 2880 gives perfect squire.?

36: I don't have any brothers and sisters. By pointing a picture that man said that his father is my fathers. Son then who is he?

37: 6 persons standing in queue with different age group, After two years their average are will be 43 and seventh person joined with them. Hence the current average age has become 45. Find the age of seventh parson?

38: The ratio b/w the ages of two persons is 6:5 and sum of there ages is 77 then how many years later there ratio becomes 8:7?

39: Horse started to chase a dog as it relieved stable two hrs ago. And horse started to ran with average speed 22km/hr, horse crossed 10 mts road and two small pounds with depth 3m, and it crossed two small streets with 200 mts length. After traveling 6hrs, 2hrs after sunset it got dog. Compute the speed of dog?

40: If six friend go to pizza corner there r 2 type s of pizzas. And six different flavors are there, they have to select 2 flavors from 6 flavors what's chances to select?

41: 3, 22, 7, 45, 15, ?, 31
Complete the series

42: A & B takes are there $1/8^{th}$ of the tank B filled in 22 Hrs. what is time to fill the tank full?

43: 5 friends went for week end party to Mc Donald's restaurant and there they measure there weights final measure is 155 kg then find the average w=weight of 5 people?

44: 2 post are there. 1^{st} pot is filled with ink and 2^{nd} pot is filled with water take 1 spoon of ink from 1^{st} pot and pore it in 2^{nd} pot. And take 1 spoon pf mixture from 2 and pot ad pore it in 2^{nd} pot then which one of following is true?
Lion said that today is one of those days when I lie.
Tiger said that today is one of those days when I lie too. Then find the day when both lie together?

45: 6 persons standing in queue with different age group, after two years their average age will be 43 and seventh person joined with them. Hence the current average age has become 45. Find the age of seventh person?

46: ((4x+3y)+5x+9y)/(5x+5y)=? As (x/2y)=2

47: If we subtract a number with y, we get 4 increase of number, once it got divided by y itself….Find the number??

48: I'm only son for my parents. The man in picture is my father's son. Who is he?

49: A toy train can make 10 sounds sound changes after every 4 min now train is defective and can make only 2 sounds, find probability that same sound is repeated 3 times consecutively?
1) 16, 2) 8, 3) 12, 4) 4

50: I have 3 grandsons. The age diff btw 2 of grandsons is X yrs. 1^{st} grandson is twice elder than younger one addition off ages of all the three is y then what is age of eldest grandson?

51: Ferrari is leading car manufacturer car . It has enjoyed great success. If Mohan's Ferrari is 3 times faster than his old MERCEDES which gave him 35 kmph if Mohan traveled 490 km in his Ferrari, then how much time (hours) he took??
1).8, 2). 4, 3) 7, 4) 7

52: Lion and rat stay in jungle happily. Lion lies on : MON TUE WED, RAT lies on : WED THURS SAT, if lion says : I didn't lie yesterday, RAT says : e1 didn't lie yesterday, so what day is today??

53: The ratio of current age of x and y is 5:7, after how many years their age ratio will b 7:9?

54: inspired by Fibonacci series sanket decided to create is own series which is 1, 2, 3, 7, 7, 22, 15, 67,…..what number come immediately before 67?

55: By using 1,,2,3,4,5 how many 5 digit no. cam be formed which is divisible by 4, repetition of no. is allowed??

56: The cost 1 plum is 1 cent, 2 apples is 1 cent, 3 bananas is 1% if Rahul buys same amount of fruits for his 3 sans appending 7 cent den what amount of fruit each child will get??

57: 2880 is divided by which smallest no. so we get no. l which is perfect square?

58: There are two prime numbers, the addition of two prime no is 13, and multiplication is 21, den what is the some of there squares?

59: Smita was making 1 design, size of larger cube to be made is 5*5*5using smaller cubes of 1*1*1. She created solid larger cube.. Then she decided to make hollow cube. Then how many 1*1*1 cubes required to make hollow larger cube

60: 2x/5y=5x/3y…den what is x/y

61: A pizza parlor provides pizzas. There were 2 topping available initially pepperoni and salami. but not they ,have introduces 8jnew toppings to select from. A person whishes to buy two DIFFERENT pizzas of NEW topping in how many ways he can do that??

62: Person travels to a place. If he goes from A to B with speed of 4kmph and return back to B with speed of 5 kmph. What is his avg. speed of journey?

63: There is a dice having value from 1 to 6 on each face and a pack of cards having face card aces. When 2 dices are thrown and their scores are added then which sum will come max number of times??

1) *, 2) 9, 3) 10 , 4) 11.

64: "Susha brought terilon cloth and rope to make a thing. If rope is 153 mtr long and it is to be cut into pieces of 1 mtr long then how many times will she have to cut it??

65: There are some 2 wheelers and 4 wheelers parked total number of wheels present is 240. Then how many 4 wheelers were there?

66: 1/3 of a number is 6 more than 1/6 of that number then what is the number?

67: The cost of making a robot consists of material cost, repairing cost, coloring cost and is in the ratio 3:4:5, if the material cost is 1200 then find out the cost of the robot.

68: there are pepsi 1 liter and oil 1 liter. It is given is 1 spoon of Pepsi is taken and is mixed with Oil. Then 1 spoon oil and Pepsi is taken and is mixed with Pepsi then which of the condition holds true.

69: A taken is filled with water in first hour 10 lit, Second hour 20 lit and in 3 rd hour time 40 lit. If time taken fill ¼ of the tank is 5 hr. what is the time required to fill up the tank.

70: Which is the smallest no divides 2880 and gives a perfect square?

71: Two bowls are taken, one contains water and another contains tea. One spoon of water is added to second bowl and mixed well, and a spoon of mixture is taken from second bowl and added to the second bowl. Which statement will hold good for the above?

72: From 8 digit numbers from by using 1,2,3,4,5 with repetition is allowed and must be divisible by 4?

a) 31250, b) 97656 c) 78125 d) 97657

73: Rearrange and categorize the word 'RAPETEKA'?

74: In school there are some bicycles and 4 wheeler wagons. One Tuesday there are 190 wheels in the campus. How many bicycles are there?

75: A lies on mon, tues, wed and speak truth on other days, B lies on thur, fri, sat and speaks truths on other days ….one day a said I lied today and B said I too lied today. What is the day?

76: A father has 7 penny's with him and 1 water melon is for 1 p, 2chickoos for 1 p, 3 grapes foe 1p, he has three sons. How can he share the fruits equally?

77: (1/2) of a number is 3 times more than the (1/6) of the same number?

78: A man is standing before a painting a man and he says I have no bro and sis and his father is my father's son?

79: One question has last part like difference between two terms is 9 and product of two numbers is 14, what is the squares of sum of numbers?

80: What is the value of [(3x+8y)/(x-2y); if x/2y=2?

81: A pizza shop made pizzas with to flavours in home there are 'N' different flavors, in that 'M' flavors are taken to made pizza. In how many ways they can arrange?

82: One grandfather had three grandchildren, two fathers their age difference is 3, eldest child age is 3 times youngest child's age and eldest child's age is two times of sum of other two children. What is the age is eldest child?

83: In one organization, material labor and maintenance are in the ratio of 4:6:7, the material cost is 100, what is the total cost?

84: In a market 4 man are standing the average age of the four before 4 years is 45, after some days one man is added and his age is 49, what is the average weight of all?

85: In school for a student out of a 100 he got 74 of average for 7 subjects and he got 79 marks in 8^{th} subjects. What is the average of all the subjects?

86: In a question, last part has the age of two people has the ratio of 6:6 and by adding the numbers we get 44, after how many years the ratio would be 8:7?

87: One train travels 200m from A to B with 70 km/ph and returns to A with 80kmph, what is the average of their speed?

88: Two years before Paul's age is 2 times the Alice age and the present age of Paul is 6times the Alice. What is the presents Paul's age?

89: There is Ferrari and Benz car, Benz speed is say 10kmph and it cover 10 km. and if fernery goes with 3 times faster than Benz. So in how much time Ferrari could take to cover same distance.

90: If one land has 3 daughters and any out of 3 have difference of ages is 3 and oldest is 3 times of more than 2 then youngest ate 2 then tell the age of oldest daughter.

91: If a person moves 15km straight and turns 45km right and moves 15km straight then how much distance he needs to walk to reach starting point?

92: If there are 30 cans out of them one is poisoned if a person tastes very little he will die within 14 hours so if there are mice to test and 24 h0urs how many mices are required to find the poisoned can?

93: if A and B mixed in 3:5 ration and b, c are mixed in 8:5 ration if the final mixture is 35 liters, find the amount of b in the final mixture.

94: 1!+2!+….50!=3*10 ^64?

95: 6 persons standing in queue with different age group, after two years their average age will be 43 and seventh person joined with them. Hence in the current average age has become 45. Find the age of seventh person?

96: If we subtract a number with y, we get 4 increase of number, once it got divided by y itself….find that number??

97: It is the class with the seating arrangement in 4 rows and 8 columns. When the teachers says 'start the girl who is sitting in first row and first column will say 1, then the next girl sitting behind her will say 4, the next girl sitting behind that girl will say 7, in a particular order each girl is telling a number, the following girls told 10, 13 next turn is yours what u will say?

98: It is drunk in my bedroom and I want to get two socks of the same color from my drawer, which contains 24 red and 24 blue socks. How many socks do I have to take from the drawer to gate at least two socks of the same color?

a) 2, b) 3, c) 48, d) 25

99: 100 the cost 1 plum is 1 cent, 2 apples is 1 cent, 3 bananas is 1 cent, if rahul buys same amount of fruits for his 3 sons spending 7 cent den what amount of fruit each child will get??

SET : 2

1. Here are 2 cans A and B one of MILK and other of Water resp., both of same quantity first one teaspoon of milk from a can was added to a can then which of the following is true.
   A. Can A contain more milk than water in can B
   B. Can A contain less milk than water in can B
   C. Both contain same quantity of milk and water

2. If a pipe can fill the tank within 6 hours but due to leak it took 30 minutes more now if the tank was full how much time will it take to get emptied through the leak?

3. The average weight of class is X kg(some number) after adding wt of the teacher avg wt of class becomes Y kg then what is the weight of the teacher?

4. 20 men shake hand with each other. What is the maximum no of handshakes without cyclic handshakes?

5. 100 men & women dance with each other. What is the probability that a man cannot dance with more than two women?

6. A man goes North 37 km turns left goes 2 km turns right goes 17 km turns right goes 2 km, find the distance between starting & ending point.

7. Lady has 2 select gloves & hat from a basket is in the dark. She can distinguish hat 7 gloves, 14 red, 20 blue, 18 green are there. Find the probability that any selected glove pair has same color.

8. Peter is 2 times Paul's age was when peter's age is same as Paul's present age. Find the Paul's age.

9. From a rope a triangle is made of sides 21 cm, 24 cm, 28 cm from this a square is made. Find the area of square.

10. In a supermarket average of 4 peoples standing in queue taken 2 yrs before is 55 yrs .Now a person of 45 yrs is added. Find the current age.

11. A toy can produce 10 different sounds. Now toy is defective to produce 2 sounds in 3 minutes, find the probability that it produces 6 consecutive in 1 second?

12. $1/6^{th}$ of a number is 4 times more than 2/3 of a number. Find number.

13. A jogger jogs@$1/6^{th}$ of his usual speed. How much % she has to increase to reach normal pace of walking.

14. X is 3 years younger to Y, X's father is a businessman who invested 10000/- at 8% rate of interest and obtained his amount after 10 years .Y's father is a job holder who invested around 20000 at 2% rate and obtained his amount after 20 years . Now compounded both of them get around ABC rs/- . After 5 years the ratio of ages of X & Y is 1:2. Now X's father is 20 years older to Y and Y's father is 30 years more than X. After 20 years again X's mother asks X's father to purchase a LCD TV which costs around 45000/-. What is the age of X and Y together?

15. The bacteria had a probability of splitting into three and a probability to die is one third of total bacteria. Let the probability be P. Some of them survived with probability 1/5 than which among the following relation is true?

a. P=1/3+1/5*3
b. P=1/5*(1/8-3)

16. If a tank a can be filled within 10 hrs and tank B is $1/4^{th}$ filled in 19 hrs, then what is the duration of the tank to fill completely?

17. A lady had fine gloves and hats, 25 blue, 7 red and 9 grey . She had to select a pair among them. But there was no light so she had to select in darkness the correct pair with glove and a hat. Therefore how many combinations of same color she can select?

18. A man looks at a painting and tells "Neither j have brothers nor sisters, but the person in the painting is my father's son". Then who is in the painting?

19. An old toy had three grandchildren, the difference between two children was 3 years. Her eldest grandchild was 3 times elder than the youngest one and the elder one 2 years more than the sum of the other two. Then what is the age of the eldest child?

20. There was a grandmother in a village that had a grandchild. Upon asking her grandchild's age she told that she is older as many days old as her daughter's age in weeks and as many days as her own age in years. The sum of the three is 130, then how old is the child?

21. (98*98*98-73*73*73)/ (98*98*98+73*73*73)=?

22. Which is the smallest number which on dividing 2880 to make it a perfect square?
    a. 6 b.5 c.4 d.3

23. Leena cut small cubes of 10 cubic cms each, which she joined to form a cube with 10 cubes length, 5 cubes in depth and 5 cubes wide. How many more small cubes does she require to form a perfect cube?

24. The age of two people is in the ratio 6:8, the sum of their ages is 77 after 2 years the ratio of their ages becomes 5:7, what is their present age?

25. If a and b are mixed in 3:5 ratio and b,c are mixed in 8:5 ratio if the final mixture is 35 liters, find the amount of b in the final mixture.?

26. A vendor sells 1 apple for 1 penny, 2 grapes for 1 penny, 3 bananas for 1 penny. A man spends 7 penny and gives equal amount of fruits to each of his three daughters. What is the possible number of fruits each daughter gets?
27. 5 persons standing in queue with different age group two years ago their average age will be X and 6^{th} person joined with them; hence the current average age has become Y. Find the age of seventh person?

28. 5,9,12,18,26,36,47,72,……? .Here odd terms have difference as multiples of 7 and even terms adds with themselves to form the next number.

29. Lion tells lies on Mondays, Tuesday and Wednesday, Rat tells lie on Thursday, Friday and Saturday, Both of them speak truth on other days. Lion tells, "Yesterday was one of the days which, I tell lying", Rat also tells "Yesterday was one of the days which I tell lying:. What day was yesterday?

30. There were three different gloves 13 red, 27 black and 40 green. How many gloves one has to take so as to ensure that there is at least one pair in each color?

31. One person has no siblings and says." The guy in the photo is the only son of my father's son", what is the relation of the guy to the person?

32. Difference of two numbers is 6. Product of them is 13.what is the sum of their squares?

33. Speed and distance were given and time taken was asked. T=D/S

34. A lady builds 9cm length, 10 cm width, 3 cm height box using 3 cubic sm cubes. What is the minimum number of cubes required to build the box?

35. When a pair of dice is thrown, what number has the higher probability to occur the sum of 8 or 9 or 10?

36. A person has to make 146 pieces of a long bar. He takes 4 seconds to cut a piece . What is the total time taken by him in seconds to make 146 pieces?

37. 6 persons standing in queue with different age group, after two years their average age will be 43 and seventh person joined with them, hence the current average age has become 45, find the age of seventh person?

38. Horse started to chase dog as it relieved stable two hrs ago. And horse started to ran with average speed 22km/hr, horse crossed 10 mts road and two small pounds with depth 3 m,and it crossed two small streets with 200 mts length . After traveling 6 hrs ,2 hrs after sunset it got dog. Compute the speed of the dog?

39. 3,22,7,45,15,?,31

40. ((4x+3y)+5x+9y))/(5x+5y)=? as (x/2y)=2

41. If we subtract a number with y, we get 4 increase of number. Once it got divided by y itself .Find that number?

42. (209*144)^2 +(209*209)+209*144)+144*144)=?
43. By which number should we divide the number 2880 to make it perfect square?

44. 1/3 of some number is 5 more than $1/6^{th}$ of that number . Find the number?

45. Difference of two numbers is 4 and their product is 13. Find the sum of squares of that number?

46. How many of 14 digit numbers we can make with 1,2,3,4,5 that are divisible by 4 . Repetitions allowed.

47. Rearrange the alphabets REGHFTYD, find the type of rearranged word belongs to:
    a. Animal
    b. Tree
    c. Bird
    d. Thing

48. There is a factory which is producing the bicycles and four wheelers . One day the total production of wheels is 158. Find out the possible no. of bicycles produced
a. 6
b.7
c.8
d.9

49. Four years hence the average of 6 members is 45 . Now a person is added and the average becomes 48. What is the age of added person?

50. A dog started two hours early before the horse started. The horse reached the dog after 6 hours with the speed of 16 km/hr, find the speed of the dog?

51. There are bacteria which have the probability of die 1/3 of its total number or it may triple . Found out the probability?
A.P=1/3+ (2/3*p^3)
B. P=2/3+(2/3* p^3)
C.P=2/3+(1/3* p^3)
D. P=2/3+ (2/3* p^3)

52. There are two tanks A,B .A will fill up 1ltr in one hour. B tank will fill up double in every hour (like10, 20, 40, 80,160…..) if the tank B is filled 1/16 in 13 hours how much time it will take to fill up totally.

53. In a hotel we can order two types of varieties, but we can make 6 more varieties in home. One can want the four varieties with two from hotel must. Find how many ways one can order.

54.There is a series 13,14,27,30,55,62 ?, 126. Find the missing.

55.There are three friends x,y,z . They go to excursion with their girl friends. There they wanted to find weights but their GF's are not accept to check their weight. Then they check weights as x,y,z individually and then x and y, y and z,x and z , then all(x,y,z) , the last measure is 171. Then find the average of all these seven measures.

56. Two tanks A and B ,A fills 1 ltr/1 hr….B fill 10,20,30,……. Per hour . If $1/4^{th}$ tank of B takes 15 hrs to fill how much it time will t take to fill complete tank.?

57. Out of 7 children the youngest is boy than find the probability that all the remaining children are boys?

58.The three sides of a triangle are given 16,14,21 cm and this triangle is converted into square. So what will be the area of the square generated?

59.An equation of the form 4x+6y-2z =32. Find the difference between x intercept and z intercept.?

60. 20 men and 20 women are there, they dance with each other, is there possibility that 2 men are dancing with same women and vice versa.

61.10 people are there, they are shaking hands together, how many had shakes possible, if they are in no pair of cyclic sequence.

62.In a school there are some bicycles and 4 wheeler wagons. One Tuesday there are 234 wheels in the campus. How many bicycles are there.?

63.A father has 7 penny's with him and 1 water melon is for 1p,2chickkos for 1p, 3 grapes for 1p has three sons. How can he share the fruits equally.?

64.In one organization , materials , labor and maintenance are in the ratio of 4:6:7, if the material cost is 272, what is the total cost?

65. 4 years before paul's age is 3 times the Alice age and the present age of Paul's is 6 times the Alice , what is the present age of Paul?

66.The ages of two people has the ratio of 6:5 and by adding the numbers we get 55 , after how many years the ratio would be 8:7?

67.A volume of X are having in a container of sphere , how many semi hemispheres of volume each will be required to transfer all the A into semi hemispheres?

68. Peter and Paul are two friends. The sum of their ages is 42 years. Peter is twice as old as paul was when Peter was as old as paul is now. What is the present age of peter?

69. A horse chases a pony 2 hours after the pony runs. Horse takes 4 hours to reach the pony. If the average speed of the horse is 81 kmpr, what is the average speed of the pony?

70. A,B,C,D,E are there among A,B,C are boys and D, E are girls>>>>>>>> D is to the left of A and no girl sits at the middle and at the extremes . Then what is the order of their sittings.

71.A man goes 50km NORTH , then turned left walked 40 km , then turned RIGHT? .In which direction is he in?

72. Out of 6 children the youngest is boy then find the probability that all the remaining children are boys.

73. A man went 1 mile to east then 1 mile to north and killed a bear what is the color of the bear?

74.In a market 4 man are standing , the average age of the four before n4 years is 45, after some days one man is added and his age is 49, what is the average weight of all?

75. One train travels 200m from A to B with 70 km/hr and returns to A with 80 kmph, what is the average of their speed?

76. The three sides of a triangle are given 18, 18, 28 cms and this triangle is converted into a square. So what will be the area of the square generated?

77. An equation of the form 7x+17y+3z=54. Find the difference between x intercept and z intercept?

78. There are 1000 pillars for a temple 3 friends Linda, Chelsey, Juli visited that temple, Linda is taller than Chelsey and taller than 2 of 1000 pillars Juli is shorter than Linda. Find the correct sentence?
a. Linda is shorter among them
b.Chelsey is taller than Juli
c.Chelsey is shorter than Juli
d. Cannot determine who is taller among Chelsey and Juli.

79. Entry ticket to an exhibition ranges from 1p to 7p. You need to provide exact change at the counter . You have 7p coin . In how many parts will you divide 7p so that you will provide the exact change required and carry as less coins as possible?
a.8 b.7 c.5 d.3

80. Dhoni and Pointing are waiting for the toss to happen, Umpire found that the coin to be tossed is missing .pointing then takes a dice 91-6) from his pocket and asks the umpire to toss with it. Umpire feels both the captains may not get which then would give fair chance to both captains. What would be the idea of Dhoni?
81. 23 people are there, they are shaking hands together, how many hands shakes possible, if they are in pair of cyclic sequence.

82.10 men and 10 women are there, they dance with each other , is there possibility that 2 men are dancing with same women and vice versa.

83. A lady took out jacket and gloves , which are available in blue 26,yellow 30 and red 56.Power goes off, she can distinguish between gloves and jacket but not in colors. What's the possibility their she will pick up pair of gloves of each color?

84. Sangakara and pointing selects batting by using a dice , but dice is biased so to resolve ponty takes out a coin, what is the probability that dice shows correct option?

85. In school there are some bicycles and 4 wheeler wagons. One Tuesday there are 58 wheels in the campus. How many bicycles are there?

86.Two bowls are taken , one contains water and another contains tea. One spoon of water is added to second bowl and mixed well, and a spoon of mixture is taken from second bowl and added to the second bowl. Which statement will hold good for the above?

87. From 8 digit numbers from by using 1,2,3,4,5 with repetition is allowed and must be divisible by 4?

a.31250 b.97656 c.78125 d.97657

88.$(a^3-b^3)/(a^2+ab+b^2)$

89. A lies on mon, tues, wed and speak truths on other days, B lies on thur,fri,sat and speaks truths on other days. One day a said I lied today and B said I too lied today. What is the day?

90.(1/2) of a number is 3 times more than the 91/6) of the same number?

91. There are two pipes A and B , if A filled 10 liters in hour B can fills 20 liters in same time. Likewise B can fill 10, 20, 40, 80,160….., if b filled in (1/16) the of a tank in 3 hours , how much time will it take to fill completely.?

92.One question has last part like difference between two terms is 9 and product of two numbers is 14, what is the squares of sum of numbers?

93.A man is standing before a painting of a man and he says I have no bro and sis and his father is my father's son?

94. What is the value of [(3x+8y)/(x-2y)], if x/2y=2?

95. One grandfather has three grandchildren, two of their age difference is 3, eldest child age is 3 times youngest child's age and eldest child's age is two times of sum of other two children. What is the age of eldest child?

96.in a market 4 man are standing, the average age of the four before 4 years is 45,after some days one man is added and age is 49, what is the average age of all?

97. In a school for a student out of a 100 he got 74 of average for 7 subjects and he got 79 marks in 8^{th} subject, what is the average of all the subjects?

98. The ages of two people has the ratio of 6:5 and by adding the numbers we get 44, after how many years the ratio would be 8:7?

99. Two years before Paul's age is 2 times the Alice age and the present age of Paul is 6 times the Alice. What is the presents Paul's age?

100. One train travels 200m from A to B with 70km/hr and returns to A with 80kmph, what is the average of their speed?

101.A man whose age is 45 years has 3 sons named John,Jill,jack,he went to a park weekly twice , he loves his sons very much. On a certain day he find # shopkeepers sailing different things. An apple cost 1 penny,2 chocolates costs 1penny&3 bananas cost 1 penny, he has bought equal no of apples, chocolate & banana for each son. If the total amount he invest is 7 penny then how many he has bought from each piece for his son?
a.1 app,1 cho,1 banana
b.1 app,2cho,3 bananas
c.1app,2cho,1 banana
d.2app,2cho,2 bananas

102.A scientist was researching on animal behavior in his lab. He was very interested in analyzing the behavior of bear. For some reason he traveled 1 mile in north direction & reached at north pole, there he saw a bear, he then followed the bear around 1 hr with a speed of 2kmph in east direction , after that he traveled in south direction & reached at his lab min 2 hrs. Then what is the color of the bear?
a. white b.black c.gray d.brown

103.How many 9 digit numbers are possible by using the digits 1,2,3,4,5, which are divisible by 4 if repetition of digits is allowed?

104.3 persons a,b,c were there A always says truth , B lies on Monday, Tuesday & Wednesday, but C lies on Thursdays, Friday & Saturday, one Das A said that B & C said to A that B said yesterday way one of the days when I lies said that yesterday way one of the days when I lies too, then which day was that?

105.A girl has to make pizza with different toppings . There are 8 different toppings, in how many ways can she make pizzas with 2 different toppings.

106.Peter & Paul are two friends . The sum of their ages is 35 years . Peter is twice as old as Paul was when Peter was as old as Paul is now . What is the present age of Peter?

107.2 pots are there , 1^{st} pot is filled with ink and 2^{nd} pot is filled with water, take 1 spoon of ink from 1^{st} pot and pore it in 2^{nd} pot and take 1 spoon of mixture from 2^{nd} pot and pore it in 2^{nd} then which one of following is true?

108.There are ten spots in library and each spot has 4 tables and ten readers are there, 10 students come into library and want 2 studies in how many ways that they sit in d library so that no chair would be blank?

109.There is a toy train that can make 10m musical sounds . It makes 2 musical sounds after being defective . What is the probability that same musical sound would be produced 5 times consecutively?(1 of _____)?

110.There are 5 materials to make a perfume ,Lilac,Balsalmic,Lemon,Woody and Mimosaic, To make a perfume that is in demand the following conditions are to be followed :Lilac and Balsalmic

go together,Woody and Mimisaic go together,woody and Balsalmic never go together. Lemon can be added with any material. All of the following combinations are possible to make a perfume EXCEPT.
1. balsalmic and lilac
2.Woody and Lemon
3. Mimosaic and lilac
4. Mimosaic and Lilac

111. A triangle is made from a rope . The sides of the triangle are 25 cm, 11 cm, and 31 cm. What will be the area of the square made from the same rope?

112. What is the distance between the Z-intercept from the X-intercept in the equation ax+by+cz+d=0.

113. An athlete decides to run the same distance in ¼ the less time that she usually took. By how much percent will she have to increase her average speed?

114.Two pipes A and B fill at A certain rate B is filled at 10,20,40,80, if 1/16 of B if filled in 17 hours what time it will take to get completely filled .

115. In a shopping mail with a staff of 5 members the average age is 45 years. After 5 years a person joined them and the average age is again 45 years . What's the age of the 6^{th} person?

116. Find (4x+2y)/(4x-2y) if x/2y=2?

117.Find the average speed if a man travels at speed of 24kmph up and 36kmph down at an altitude of 200 m. Formula is 2xy/(x=y).

118. Six friends go to pizza corner there are 2 types of pizzas and six different flavors are there they have to select 2 flavors from 6 flavors in how many ways we can select?

119.3 friends A,B,C went for week end party to McDonald's restaurant and there they measure there weights in some order In 7 rounds.A:B:C,AB:BC,AC:ABC. Final round measure is 155 kg then find the average weight of all the 7 rounds?

120. There is a toy train that can make 10 musical sounds . It makes 2 musical sounds after being defective. What is the probability that same musical sound would be produced 5 times consecutively?(1 of)?

121. What is the distance of the z-intercept from the x-intercept in the equation ax+by+cz=d (I do not remember the values of a,b,c,d)

122. A scientist in Antarctic region conducts research on bears came to know that bears changes according to the location . Once he moves 1 mile towards north, then he moves 2 miles towards east, then 1 mile towards south. Now the color of bear he found will be in:

123. 91/30 of a number is 3 times more than the (1/60 of the same number?

124.There are 11 Boys in a family . Youngest child is a boy . What is the probability of all are boys?
a.2 b.2! c.2048 d.1024

125. A boy bought a roll A of 56 inches wide and 141 yards long. He also bought B of 77 inches wide of length 333 yards. Time taken for cutting A into 1 yard piece is 2 seconds. Time taken to cut into 141 pieces of 1 yard each is?

126.A person buys a horse for 15 ponds after one year he sells it for 20 pounds .After one year , again he buys the same horse at 30 pounds and sells it for 40 pounds. What is the profit for that person?

127. John buys a cycle for 31 dollars and given a cheque of amount 35 dollars. Shop keeper exchanged the cheque with his neighbor and gave change to John. After 2 days it is known that cheque is bounced. Shop keeper paid the amount to his neighbor. The cost price of cycle is 19 dollars. What is the profit/loss for shop keeper?

128. In a family there are some boys and girls. All boys told that they are having equal no of brothers and sisters and girls told that they are having twice the no. of brothers than sisters. How many boys and girls present in a family?

129. There are certain number of hats and gloves in box. They are of 41 red, 23 green, 11 orange. But a woman can differentiate between hats and gloves. How many draws are required to obtain a pair of each color?

130. 2 years ago of A is x times that of B. 3years hence the age of A is 4/3 times of B. What is the present age of B in binary form?

131. A metal strip of width x cm, 2 metal strips are placed one over the other, then the combine length of 2 strips is y , if z strips are placed in that number manner. What is the final width of that arrangement?
132. There are 100 men and 100 women on the dance floor. They want to dance with each other. Then which of the following statements is always true:
a. There are 2 men who danced with equal no. of women's
b.There are 2 women who danced with equal no of men

133. A game is played between 2 players and one player is declared as winner. All the winners from first round are played in second round. All the winners from second round are played in third round and so on. If 8 rounds are played to declare only one player as winner, how many players are played in first round.

134. There are 3 boys A,B,C and 2 girls D,E,.D always sit right to A, Girls never sit in extreme positions and in the middle position always sits in the extreme positions. Who is sitting immediate right to E?

135.49 members attended the party, in that 22 are males, 17 are females. The shake hands between males, females, male and female. Total 12 people given shake hands. How many such kinds of such shake hands are possible?

136. Entry ticket to an exhibition ranges from 1p to 31p. You need to provide exact change at the counter. You have 31p coin. In how many parts will you divide 31p so that you will provide that exact change required and carry as less coins as possible?
a.22 b.31 c.6 d.32

137. There are 2 friends Peter and Paul, Peter age is twice as old as Paul when Peter was as old as Paul is now. Sum of the present ages of Peter and Paul is 35. What is the present age of Peter?

138. A lady took out jacket and gloves, which are available in blue 26, yellow 30 and red 56.Power goes off, she can distinguish between gloves and jacket but not in color. What's the possibility their she will pick up pair of gloves of each color.

139. Two bowls are taken, one contains water and another contains tea. One spoon of water is added to second bowl and mixed well, and a spoon of mixture is taken from second bowl and added to the second bowl.
Which statement will hold good for the above

140. One grandfather has three grandchildren, two of their age difference is 3, eldest child age is 3 times youngest child's age and eldest child's age is two times of sum of other two children. What is the age of eldest child?

141.10 men and 10 women are there, they dance with each other, is there possibility that 2 men are dancing with same women and vice versa.

142. Two bowls are taken, one contains water and another contains tea. One spoon of water is added to second bowl and mixed well, and a spoon of mixture is taken from second bowl and added to the second bowl. Which statement will hold good for the above.
143.From 8 digit number from by using 1,2,3,4,5 with repetition is allowed and must be divisible by 4?
a.31250 b.97656 c.78125 d.97657

144.One question has last part like difference between two terms is 9 and product of two numbers is 14.What is the square of the sum of numbers?

145. One grandfather has three grandchildren, two of their age difference is 3, eldest child age is 3 times youngest child's age and eldest child's age is two times of sum of other two children. What is the age of eldest child?

146. In a market 4 man are standing. The average age of the four before 4 years is 45, after some days one man is added and his age is 49. What is the average weight of all?

147. In a school for a student out of a 100 he got 74 of average for 7 subjects and he got 79 marks in 8^{th} subject. What is the average of all the subjects?

149. One train travels 200 m from A to B with 70 km/ph and returns to A with 80 km/ph, what is the average of their speed?

150. There are 10 reading spots in a room. Each reading spot has a round table .Each round table has 4 chair; if different no of persons are sitting at each reading spot. And if there are 10 persons inside the room then how many reading spots do not have at least a single reader.
a.5 b.6 c.7 d.None

151. A person does rock climbing at an altitude of 800 m. He goes up by 7mph and come down by 9 mph.What was his average speed.

152.A boy want to make a cuboid of dimension 5m,6m,7m from small cubes of .03 m^3.later he realized ,he can make same cuboid by making it hollow. Then it take some cubes less. What is the no of these cube.

153. Two years ago A was 6 times older than B . Now he is 2 times older than B. What is the age of A.

154. What is the value of (78*78*78*-45*45*45)/(78*78+78*45+45*45)

155.In a shopping mall with a staff of 5 members the average age is 45 years. After 5 years a person joined them and the average age is again 45 years . What is the age of 6^{th} person?

156. Find (4x+2y)/(4x-2y) if x/2y=2

157.Find the average speed if a man travels at speed of 24kmph up and 36 kmph down at an altitude of 200m, formula is 2xy/(x+y)

158.A triangle is made from a rope .The sides of the triangle are A cm,B cm& C cm. What will be the area of the square made from the same rope?

159. What is the distance of the z-intercept from the x-intercept in the equation ax+by+cz=d (I do not remember the values of a,b,c,d)

160.A scientist in Antarctic region conducts research on bears came to know that bears changes according to the location. Once he moves 1 mile towards north, then he moves 2 miles towards east, then 1 mile towards south . Now the color of bear he found will be in.

161.(1/3) of a number is 3 times more than the (1/6) of the same number?

162. There are 11 boys in a family .Youngest child is a boy . What is the probability of all are boys?
a.2 b.2! c.2048 d.1024

163. A boy bought a roll A of 56 inches wide and 141 yards long. He also bought B of 77 inches wide of length 333 yards. We don't want any details of B.Final question is time taken for cutting A into 1 yard piece is 2 seconds. Time taken to cut into 141 piece of 1 yard each is?

164. A person buys a horse for 15 ponds, after one year he sells it for 20 pounds, after one year, again he buys the same horse at 30 pounds and sells for 40 pounds. What is the profit for that person?

165. John buys a cycle for 31 dollars and given a cheque of amount 35 dollars. Shop Keeper exchanged the cheque with his neighbor and gave change to john. After 2 days, it is known that cheque is bounded .Shop Keeper paid the amount to his neighbor. The cost price of cycles is 19 dollars. What is the profit/loss for shopkeeper?

166. There is a die with 10 faces .It is not known that fair or not 2 captains want to toss die for batting selection. What is the possible solution among the following?
a. if no. is odd it is head, if no is even it is tails
b. if no is odd it is tail, if no is even it is head
C.Toss a die until all the 10 digits appear on top face.

167. In a family there are some boys and gilrs. All boys told that they are having equal no of brothers and sisters and girls told that they are having twice the no of brothers than sisters. How many boys and girls present in a family?

168.2 years ago of A is x times that of B. 3 years hence the age of A is 4/3 times of B. What is the present age of B in binary form?

169. A metal strip of width x cm, 2 metal strips are placed one over the other, then the combine length of 2 strips is y , if z strips are placed in that number manner. What is the final width of that arrangement?

170. There are 100 men and 100 women on the dance floor. They want to dance with each other. Then which of the following statements is always true:
a. There are 2 men who danced with equal no. of women's
b.There are 2 women who danced with equal no of men

171. A game is played between 2 players and one player is declared as winner. All the winners from first round are played in second round. All the winners from second round are played in third round and so on. If 8 rounds are played to declare only one player as winner, how many players are played in first round.

172. There are 3 boys A,B,C and 2 girls D,E,.D always sit right to A, Girls never sit in extreme positions and in the middle position always sits in the extreme positions. Who is sitting immediate right to E?

173. 49 members attended the party, in that 22 are males, 17 are females. The shake hands between males, females, male and female. Total 12 people given shake hands. How many such kinds of such shake hands are possible?

174. There are 1000 pillars for a temple 3 friends Linda, Chelsey, Juli visited that temple, Linda is taller than Chelsey and taller than 2 of 1000 pillars Juli is shorter than Linda. Find the correct sentence?
a. Linda is shorter among them
b.Chelsey is taller than Juli
c.Chelsey is shorter than Juli
d. Cannot determine who is taller among Chelsey and Juli.

175. Entry ticket to an exhibition ranges from 1p to 31p. You need to provide exact change at the counter. You have 31p coin. In how many parts will you divide 31p so that you will provide that exact change required and carry as less coins as possible?

a.22 b.31 c.6 d.32

SET : 3

1. Alok and Bhanu play the following min-max game. Given the expression N=40+X+Y-Z, where X, Y and Z are variables representing single digits (0 to 9), Alok would like to maximize N while Bhanu would like to minimize it. Towards this end, Alok chooses a single digit number and Bhanu substitutes this for a variable of her choice (X, Y or Z). Alok then chooses the next value and Bhanu, the variable to substitute the value. Finally Alok proposes the value for the remaining variable. Assuming both play to their optimal strategies, the value of N at the end of the game would be

- 49
- 51
- 31
- 58

2. The IT giant Tirnop has recently crossed a head count of 150000 and earnings of $7 billion. As one of the forerunners in the technology front, Tirnop continues to lead the way in products and services in India. At Tirnop, all programmers are equal in every respect. They receive identical salaries and also write code at the same rate. Suppose 14 such programmers take 14 minutes to write 14 lines of code in total. How long will in take 5 programmers to write 5 lines of code in total ?

- 19
- 5
- 14
- 70

3. 14 people meet and shake hands. The maximum number of handshakes possible if there is to be no 'cycle' of handshakes is (A cycle of handshakes is a sequence of people a1, a2,…ak, k>2 such that the pairs {a1,a2}, {a2,a3},…, {a(k-1), ak}, {ak, a1} shake hands).

- 11
- 12
- 10
- 13

4. 45 suspects are rounded by the police and questioned about a bank robbery. Only one of them is guilty. The suspects are made to stand in a line and each person declares that the person next to him on his right is guilty. The rightmost person is not questioned. Which of the following possibilities are true? A. All the suspects are lying. B. The leftmost suspect is guilty. C. The rightmost suspect is guilty.

- A only
- A and C
- B only
- A and B

5. The dynamics of crowd behaviour are hard to study because usually people are not reliable witnesses of their own behaviour. Now consider 4 people standing in the queue of a supermarket. You want to predict their behaviour based on their age group. You get to know from the supermarket records that their average age 4 years ago was 43 years. After a while, another person joins the queue and the present average of all the 5 is 40 years. The present age of the last person in the queue is :

- 28 years
- 12 years

- 32 years
- 24 years

6. One day Snow-white meets Pal and Unicorn in the Fairyland. She knows the Pal lies on Mondays, Tuesdays and Wednesdays, and tells the truth on the other days of the week. Unicorn, on the other hand, lies on Thursdays, Fridays and Saturdays, but tells the truth on the other days of the week. Now they make the following statements to Snow-white – Pal: Yesterday was one of those days when I lie. Unicorn: Yesterday was one of those days when I lie too. What day is it?

- Tuesday
- Monday
- Thursday
- Sunday

7. The Barnes Foundation in Philadelphia has one of the most extra-ordinary and idiosyncratic collections in French impressionist art. Dr. Barnes who put together this collection has insisted that the paintings be hung in a particular manner specified by him at a museum designed by the French architect Paul Philippe Cret who also designed the Rodin Museum. The museum has, say, seven galleries – Eugene Boudin, Cassatt, Boudin, Forain, Gonzales, Manet and Monet. Visitors reach the main Eugene Boudin by an elevator, and they can enter and leave the exhibition only through Eugene Boudin gallery. Once inside, visitors are free to move as they choose. The following list includes all of the doorways that connect the seven galleries: There is a doorway between Eugene Boudin and Cassatt, a doorway between Eugene Boudinand Boudin, and a doorway between Eugene Boudin and Gonzales galleries. There is a doorway between Cassatt and Boudin galleries. There is a doorway between Gonzales and Forain and a doorway between Gonzales and Manet galleries. There is a doorway between Manet and Monet galleries. Which of the following rooms CANNOT be the third gallery that any visitor enters ?

- Monet
- Boudin
- Forain
- Cassatt

8. Mr. Beans visited a magic shop and bought some magical marbles of different colours along with other magical items. While returning home whenever he saw a coloured light, he took out marbles of similar colours and counted them. So he counted the pink coloured marbles and found that he has bought 25 of them. Then he counted 14 green marbles and then 21 yellow marbles. He later counted 30 purple coloured marbles with him. But when he reached a crossing, he looked at a red light and started counting red marbles and found that he had bought 23 Red marbles. As soon as he finished counting, it started raining heavily and by the time he reached home he was drenched. After reaching home he found that the red, green and yellow marbles had magically changed colours and became white, while other marbles were unchanged. It will take 1 day to regain its colours, but he needs to give atleast one pair of marbles to his wife now. So how many white marbles must be choose and give to his wife so as to ensure that there is atleast one pair of red, yellow and green marbles ?

- 46;
- 35
- 29
- 48

9. A greengrocer was selling watermelon at a penny each, chickoos at 2 for a penny and peanuts at 3 for a penny. A father spent 7p and got the same amount of each type of fruit for each of his three children, Jane, Joe and Jill. Jane is three years older than Jill and Joe is exactly half the age of Jane and Jill together. What did each child get ?

- 1 watermelon, 3 chickoos, 2 peanuts
- 1 watermelon, 1 chickoo, 1 peanus
- 1 watermelon, 2 chickoos, 2 peanuts
- 1 watermelon, 2 chickoos, 1 peanut

10. Given 3 lines in the plane such that the points of intersection from a triangle with sides of length 20, 20 and 20, the number of points equidistant from all the 3 lines is

- 4
- 3
- 0
- 1

11. 33 people {a1, a2,…,a33} meet and shake hands in a circular fashion. In other words, there are totally 33 handshakes involving the pairs, {a1,a2}, {a2,a3},…,{a32, a33}, {a33, a1}. Then the size of the smallest set of people such that the rest have shaken hands with at least one person in the set is

- 10
- 11
- 16
- 12

12. Consider two vessels, the first containing on litre of water and the second containing one litre of pepsi. Suppose you take one glass of water out of the first vessel and pour it into the second vessel. After mixing you take one glass of the mixture from the second vessel and pour it back into the first vessel. Which one of the following statements holds now?

- None of the statements holds true.
- There is less Pepsi in the first vessel than water in the second vessel.
- There is more Pepsi in the first vessel than water in the second vessel.
- There is as much Pepsi in the first vessel as there is water in the second vessel.

13. Amok is attending a workshop 'How to do more with less' and today's theme is Working with fever digits. The speakers discuss how a lot of miraculous mathematics can be achieved if mankind (as well as womankind) had only worked with fever digits. The problem posed at the end of the workshop is 'How many 10 digit numbers can be formed using the digits 1, 2, 3, 4, 5 (but with repetition) that are divisible by 4?' Can you help Amok find the answer?

- 1953125
- 781250
- 2441407
- 2441406

14. For the FIFA world cup, Paul the octopus has been predicting the winner of each match with amazing success. It is rumored that in a match between 2 teams A and B, Paul picks A with the same probability as A's chances of wining. Let's assume such rumors to be true and that in a match between Ghana and Bolivia, Ghana the stronger team has a probability of 11/12 of winning the game. What is the probability that Paul with correctly pick the winner of the Ghana-Bolivia game?

- .92
- .01
- .85
- .15

15. There are two boxes, one containing 39 red balls and the other containing 26 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is

- .60
- .50
- .80

- .30

16. After the typist writes 40 letters and addresses 40 envelopes, she inserts the letters randomly into the envelopes (1 letter per envelope). What is the probability that exactly 1 letter is inserted in an improver envelope?

- 1 – 1/40
- 1/40
- 1/401
- 0

17. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/3 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/4 of the distance. By what factor should be hare increase its speed so as the win the race?

- 4
- 3
- 12
- 5.00

18. A sheet of paper has statements numbered from 1 to 20. For each value of n from 1 to 20, statements n says 'At least n of the statements on this sheet are true.' Which statements are true and which are false?

- The odd numbered statements are true and the even numbered are false.
- The first 13 statements are false and the rest are true.
- The first 6 statements are true and the rest are false.
- The even numbered statements are true and the odd numbered are false.

19. The question is followed by two statements, A and B. Answer the question using the following instructions: Choose 1: if the question can be answered by using one of the statements alone but not by using the other statement alone. Choose 2: if the question can be answered by using either of the statements alone. Choose 3: if the question can be answered by using both statements together but not by either statement alone. Choose 4: if the question cannot be answered on the basis of the two statements. Zaheer spends 30% of his income on his children's education, 20% on recreation and 10 % on healthcare. The corresponding percentages for Sandeep are 40%, 25% and 13%. Who spends more on children's education? A" Zaheer spends more on recreation that Sandeep B: Sandeep spends more on healthcare than Zaheer.

- 3
- 2
- 1
- 4

20. Subha Patel is an olfactory scientist working for International Flavors and Fragrances. She specializes in finding new scents recorded and reconstituted from nature thanks to Living Flower Technology. She has extracted fragrance ingredients from different flowering plants into bottles labeled herbal, sweet, honey, anisic and rose. She has learned that a formula for a perfume is acceptable if and only if it does not violate any of the rules listed: If the perfume contains herbal, it must also contain honey and there must be twice as much honey as herbal. If the perfume contains sweet, it must also contain anisic, and the amount of anisic must equal the amount of sweet. honey cannot be used in combination with anisic. anisic cannot be used in combination with rose. If the perfume contains rose, the amount of rose must be greater than the total amount of the other essence or essences used. Which of the following could be added to an unacceptable perfume consisting of two parts honey and one part rose to make it acceptable?

- Two parts rose
- One part herbal

- Two parts honey
- One part sweet

21. The citizens of planet Oz are 6 fingered and thus have developed a number system in base 6. A certain street in Oz contains 1000 buildings numbered from 1 to 1000. How many 3's are used in numbering these buildings? Express your answer in base 10.

- 144
- 54
- 108
- 36

22. Recent reports have suggested that sportsmen with decreased metabolic rates perform better in certain sports. After reading one such report, Jordan, a sportsperson from Arlington decides to undergo a rigorous physical training program for 3 months, where he performs Yoga for 3 hours, walks for 2 hours and swims for 1 hour each day. He says: I began my training on a Wednesday in a prime number month of 2008. I lost 1% of my original weight within the first 30 days. In the next two months combined, I lost 1 Kg. If he walks at 5 mph over a certain journey and walks back over the same route at 7 mph at an altitude of 200 meters, what is his average speed for the journey?

- 5.83
- 2.92
- 6.00
- 35.00

23. A schoolyard contains only bicycles and 4 wheeled wagons. On Tuesday, the total number of wheels in the schoolyard was 134. What could be possible number of bicycles?

- 16
- 15
- 18
- 14

24. A sheet of paper has statements numbered from 1 to 20. For all values of n from 1 to 20, statement n says: 'Exactly n of the statements on this sheet are false.' Which statements are true and which are false?

- The even numbered statements are true and the odd numbered statements are false.
- All the statements are false.
- The odd numbered statements are true and the even numbered statements are false.
- The second last statement is true and the rest are false.

25. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If tank B is 1/8 filled after 5 hours, what is the total duration required to fill it completely?

- 9 hours
- 7 hours
- 3 hours
- 8 hours

26. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

- 900
- 488
- 500

- 800

27. Alice and Bob play the following coins-on-a-stack game. 100 coins are stacked one above the other. One of them is a special (gold) coin and the rest are ordinary coins. The goal is to bring the gold coin to the top by repeatedly moving the topmost coin to another position in the stack. Alice starts and the players take turns. A turn consists of moving the coin on the top to a position I below the top coin (for some I between 0 and 100). We will call this an i-move (thus a 0-move implies doing nothing). The proviso is that an i-move cannot be repeated; for example once a player makes a 2-move, on subsequent turns neither player can make a 2-move. If the gold coin happens to be on top when it's a player's turn then the player wins the game. Initially, the gold coin is the third coin from the top. Then

- In order to win, Alice's first move should be a 1-move.
- In order to win, Alice's first move should be a 0-move.
- Alice has no winning strategy.
- In order to win, Alice's first move can be a 0-move or a 1-move.

28. The teacher is testing a student's proficiency in arithmetic and poses the following question: 1/2 of a number is 3 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?

- 9
- 8
- 10
- 3

29. A circular dashboard of radius 1.0 foot is at a distance of 20 feet from you. You throw a dart at it and it hits the dartboard at some point Q in the circle. What is the probability that Q is closer to the center of the circle than the periphery?

- 1.00
- .75
- .25
- .50

30. A result of global warming is that the ice of some glaciers is melting. 13 years after the ice disappears, tiny plants, called lichens, start to grow on the rocks. Each lichen grows approximately in the shape of a circle. The relationship between the diameter of this circle and the age of the lichen can be approximated with the formula: $d=10*(t - 13)$ for $t > 13$, where d represents the diameter of the lichen in millimeters, and t represents the number of years after the ice has disappeared. Using the above formula, calculate the diameter of the lichen, 45 years after the ice has disappeared.

- 450
- 437
- 13
- 320

31. 25 people meet and shake hands. The maximum number of handshakes possible if there is to be no 'cycle' of handshakes is (A cycle of handshakes is a sequence of people a1, a2, …, ak, k>2 such that pairs {a1, a2}, {a2, a3}, …, {a(k-1), ak}, {al, a1} shake hands).

- 24
- 22
- 21
- 23

32. Consider two cans, the first containing one litre of water and the second containing one litre of Pepsi. Suppose you take one cup of water out of the first can and pour it into the second can. After mixing you take one cup of the mixture from the second can and pour it back into the first can. Which one of the following statements holds now?

- There is less Pepsi in the first can than water in the second can.
- There is more Pepsi in the first can than water in the second can.
- None of the statements holds true.
- There is as much Pepsi in the first can as there is water in the second can.

33. A greengrocer was selling orange at a penny each, olives at 2 for a penny and grapes at 3 for a penny. A father spent 7p and got the same amount of each type of fruit for each of his three children, Jane, Joe, and Jill. Jane is three years older than Jill and Joe is exactly half the age of Jane and Jill together. What did each child get?

- 1 orange, 2 olives, 2 grapes
- 1 orange, 3 olives, 2 grapes
- 1 orange, 1 olive, 1 grape
- 1 orange, 2 olives, 1 grape

34. A sheet of paper has statements numbered from 1 to 20. For each value of n from 1 to 20, statement n says 'At least n of the statements on this sheet are true.' Which statements are true and which are false?

- The even numbered statements are true and the odd numbered are false
- The first 13 statements are false and the rest are true.
- The fist 6 statements are true and the rest are false.
- The odd numbered statements are true and the even numbered are false.

35. 45 suspects are rounded by the police and questioned about a bank robbery. Only one of them is guilty. The suspects are made to stand in a line and each person declares that the person next to him on his right is guilty. The rightmost person is not questioned. Which of the following possibilities are true? A. All the suspects are lying. B. The leftmost suspect is guilty. C. The rightmost suspect is guilty.

- A and C
- A and B
- A only
- B only

36. Ferrari S.p.A. is an Italian sports car manufacturer base in Maranello, Italy. Founded by Enzo Ferrari in 1928 as Scuderia Ferrari, the company sponsored driver and manufactured race cars before moving into production of street – legal vehicles in 1947 as Ferrari S.p.A..Throughout its history, the company has bee noted for its continued participation in racing, especially in Formula One, where it has enjoyed great success. Rohit once brought a Ferrari. It could go 2 times as fast as Mohit's old Mercedes. If the speed of Mohit's Mercedes is 40 Km/hr and the distance traveled by the Ferrari is 913 Km, find the total time taken for Rohit to drive the distance.

- 12 Hours
- 22 Hours
- 456 Hours
- 11.41 Hours

37. The teacher is testing a student's proficiency in arithmetic and poses the following question: 1/3 of a number is 6 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?

- 35
- 6
- 37
- 36

38. Recent report have suggested that sportsmen with decreased metabolic rates perform better in certain sports. After reading one such report, Jordon, a sportsperson from Arlington decides to undergo a rigorous physical training program for 3 months, where he performs Yoga for 3 hours, walks for 2 hours and swims for 1 hour each day. He says: I began my training on a Wednesday in a prime number month of 2008. I lost 1% of my original weight within the first 30 days. In the next two months combined, I lost 1 Kg. If he walks at 5 mph over a certain journey and walks back the same route at 8 mph at an altitude of 200 meters, what is his average speed for the journey?

- 6.15
- 3.08
- 6.50
- 26.67

39. The result of global warming is the ice of some glaciers is melting. 19 years after the ice disappears, tiny planets, called lichens, start to grow on the rock. Each lichen grows approximately in the shape of a circle. The relationship between the diameter of the circle and the age of the lichen can be approximated with the formula: d =12* (t-19) for t>19, where d represents the diameter of the lichen in millimeters, and t represents the number of years after the ice has disappeared. Using the above formula, calculate the diameter of the lichen, 32 years after the ice has disappeared.

- 384
- 156
- 19
- 365

40. There are two boxes, one contains 12 red balls and the other containing 47 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is:

- .59
- .20
- .10
- .50

41. The citizens of planet Oz are fingered and thus have developed a number system in base 6. A certain street in Oz contains 1000 buildings numbered from 1 to 1000. How many 2's are used in numbering these buildings? Express your answer in base 10.

- 144
- 24
- 108
- 36

42. The question is followed by two statements, A and B. Answer the question using the following instructions: Choose1: if the question can be answered by using one of the statements alone but not by using the other statement alone. Choose2: if the question can be answered by using either of the statements alone. Choose3: if the question can be answered by using both statements together but not by either statement alone. Choose4: if the question cannot be answered on the basis of the two statements. Zayed spends 30% of his income on his children's education, 20% on recreation and 10% on healthcare. The corresponding percentage for Sandeep are 40%, 25% and 13%. Who spends more on children's education? A: Zayed spends more on recreation than Sandeep B: Sandeep spends more on healthcare than Zayed.

- 4
- 3
- 2
- 1

43. The question is followed by two statements, A and B. Answer the question using the following instructions: Choose1: if the question can be answered by using one of the statements alone but not by

using the other statement alone. Choose2: if the question can be answered by using either of the statements alone. Choose3: if the question can be answered by using both statements together but not by either statement alone. Choose4: if the question cannot be answered on the basis of two statements. Tarun is standing 2 steps to the left of a green mark and 3 steps to the right of a black mark. He tosses a coin. If it comes up heads, he moved one step to the right, otherwise he moves one step to the left. He keeps doing this until he reaches one of the two marks, and then he stops. At which mark does he stops? A: he stops at 21 coin tosses. B: he obtains three more tails than heads.

- 1
- 3
- 4
- 2

44. There are two water tank A and B, A is much smaller than B. While water fills at rate of one liter every hour in A, it gets filled up like 10, 20, 40, 80, 16..in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If tank B is 1/8 filled after 7 hours, what is the total duration required to fill it completely?

- 10 hours
- 9 hours
- 11 hours
- 3 hours

45. A sheet of paper has statements numbered from 1 to 10. For all values of n from 1 to 10, statement n says: 'Exactly n of the statements on this sheet are false.' Which statements are true and which are false?

- The even numbered statements are true and the odd numbered statements are false.
- The second last statement is true and the rest are false.
- The odd numbered statements are true and the even numbered statements are false.
- All the statements are false.

46. Alok is attending a workshop 'How to do more with less' and today's theme is working with fewer digits. The speakers discuss how a lot of miraculous mathematics can be achieved if mankind (as we as womankind) had only worked with fewer digits. The problem posed at the end of the workshop is 'How many 6 digit numbers can be formed using the digits 1,2,3,4,5, (but with repetition) that are divisible by 4?' Can you help Alok find the answer?

- 3906
- 3907
- 3125
- 1250

47. The dynamics of crowd behaviour are hard to study because usually people are not reliable witness of their own behaviour. Now consider 4 people standing in the queue of a supermarket. You want to predict their behaviour based on their age group. You get to know fro the supermarket records that their average age 3 years ago was 48 years. After a while, another person joins the queue and the present average of all the 5 is 46 years. The present age of the last person in the queue is:

- 38 years
- 35 years
- 41 years
- 26 years

48. Alice and Bob play the following coins-on-a-stack game. 100 coins are stacked one above the other. One of them is a special (gold) coin and the rest are ordinary coins. The goal is to bring the gold coin to the top of the repeatedly moving the topmost coin to another position in the stack. Alice starts and the players take turns. A turn consists of moving the coin on the top to a position I below the top coin (for some I between 0 and 100). We will call this as i-move (thus a 0-move implies doing nothing). The proviso is that an i-move

cannot be repeated, for example once a player makes a 2-move, on subsequent turns neither player can make a 2-move. If the gold coin happen to be on the top when it's a player's turn then the player wins the game. Initially, the gold coin is the third coin from the top. Then

- In order to win, Alice's first move should be a 1-move.
- Alice has no winning strategy.
- In order to win, Alice's first move can be a 0-moveor a 1-move.
- In order to win, Alice's first move should be a 0-move.

49. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If tank B is 1/16 filled after 16 hours, what is total duration required to fill it completely?

- 19 hours
- 20 hours
- 4 hours
- 21 hours

50. Consider two tumblers, the first containing one litre of milk ad the second containing one litre of coffee. Suppose you take one glass of milt out of the first tumbler and pour it into the second tumbler. After mixing you take one glass of the mixture from the second tumbler and pour it back into the first tumbler. Which one of the following statements holds now?

- None of the statements holds true.
- There is less coffee in the first tumbler than milk in the second tumbler.
- There is as much coffee in the first tumbler as there is milk in the second tumbler.
- There is more coffee in the first tumbler than milk in the second tumbler.

51. A circular dashboard of radius 2.0 foot is at a distance of 20 feet from you. You throw a dart at it and it hits the dartboard at some point Q in the circle. What is the probability that Q is closer to the center of the circle than the periphery?

- .75
- 1.00
- .25
- .50

52. A sheet of paper has statements numbered from 1 to 10. For all values of n from 1 to 10, statement n says: 'Exactly n of the statements on this sheet are false.' Which statements are true and which are false?

- All the statements are false.
- The second last statement is true and the rest are false.
- The even numbered statements are true and the odd numbered statements are false.
- The odd numbered statements are true and the even numbered statements are false.

53. Consider two vessels, the first containing one litre of oil and the second containing one litre of coffee. Suppose you take one spoon of oil out of the first vessel and pour it into the second vessel. After mixing you take one spoon of mixture from the second vessel and pour it back into the first vessel. Which one of the following statements holds now?

- None of the statements holds true.
- There is less coffee in the first vessel than oil in the second vessel.
- There is more coffee in the first vessel than oil in the second vessel.
- There is as much coffee in the first vessel as there is oil in the second vessel.

54. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres,

second hour it has 20, and so on). If tank B is 1/32 filled after 19 hours, what is total duration required to fill it completely?

- 5 hours
- 23 hours
- 24 hours
- 25 hours

55. The question is followed by two statements, A and B. Answer the question using the following instructions: Choose1: if the question can be answered by using one of the statements alone but not by using the other statement alone. Choose2: if the question can be answered by using either of the statements alone. Choose3: if the question can be answered by using both statements together but not by either statement alone. Choose4: if the question cannot be answered on the basis of two statements. Zayed spends 30% of his income on his children's education, 20% on recreation and 10% on healthcare. The corresponding percentage for Sandeep are 40%, 25% and 13%. Who spends more on children's education? A: Zayed spends more on recreation than Sandeep B: Sandeep spends more on healthcare than Zayed.

- 1
- 3
- 4
- 2

56. The question is followed by two statements, A and B. Answer the question using the following instructions: Choose1: if the question can be answered by using one of the statements alone but not by using the other statement alone. Choose2: if the question can be answered by using either of the statements alone. Choose3: if the question can be answered by using both statements together but not by either statement alone. Choose4: if the question cannot be answered on the basis of two statements. Tarak is standing 2 steps to the left of a yellow mark and 3 steps to the right of a grey mark. He tosses a coin. If it comes up heads, he moves one step to the right, otherwise he moves one step to the left. He keeps doing this until he reaches one of the two marks, and then he stops. At which mark does he stops? A: he stops at 21 coin tosses. B: he obtains three more tails than heads.

- 2
- 3
- 4
- 1

57. A sheet of paper has statements numbered from 1 to 10. For all values of n from 1 to 10, statement n says: 'Exactly n of the statements on this sheet are false.' Which statements are true and which are false?

- The even numbered statements are true and the odd numbered statements are false.
- The second last statement is true and the rest are false.
- The odd numbered statements are true and the even numbered statements are false.
- All the statements are false.

58. There are two boxes, one contains 47 red balls and the other containing 46 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is

- .75
- .50
- .25
- .51

59. Consider two vessels, the first containing one litre of ink and the second containing one litre of cola. Suppose you take one glass of ink out of the first vessel and pour it into the second vessel. After mixing you

take one glass of mixture from the second vessel and pour it back into the first vessel. Which one of the following statements holds now?

- There is as much cola in the first vessel as there is ink in the second vessel.
- None of the statements holds true.
- There is more cola in the first vessel than ink in the second vessel.
- There is less cola in the first vessel than ink in the second vessel.

60. 36 people {a1, a2, ….., a36} meet and shake hand in a circular fashion. In other words, there are totally 36 handshakes involving in the pairs, {a1,a2}, {a2,a3}, ….., {a35, a36}, {a36, a1}. Then the size of the smallest set of people such that the rest have shaken hands with at least one person in the set is

- 11
- 18
- 12
- 13

SET :4

- Instructions
- Preview duration will be 40 minutes.
- The clock starts when you login using your registered email id for preview.
- Count down timer at the top right corner will display time to closure.
- The system will log you out of the preview at the end of 40 minutes.
- Click one of the option buttons to select your choice.
- To change a choice, simply click the desired option button.
- To deselect your choice, click the Reset button.
- To save your choice before moving to the next screen, click on Save & Next. The next screen will automatically be displayed.
- Click on Skip to move to the next screen. This will not save your current option. The next screen will automatically be displayed.
- To go to a specific screen, click the number on the preview palette.
- The color coded diagram on the preview palette shows the status.

1. The teacher is testing a student's proficiency in arithmetic and poses the following question. 1/3 of a number is 3 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?
(a)12
(b)18
(c)21
(d) 6

2. Ferrari S.p.A. is an Italian sports car manufacturer based in Maranello, Italy. Founded by Enzo Ferrari in 1928 as Scuderia Ferrari, the company sponsored drivers and manufactured race cars before moving into production of street-legal vehicles in 1947 as Ferrari S.p.A.. Throughout its history, the company has been noted for its continued participation in racing, especially in Formula One, where it has enjoyed great success. ***Rohit once bought a Ferrari. It could go 2 times as fast as Mohit's old Mercedes. If the speed of Mohit's Mercedes is 32 km/hr and the distance travelled by the Ferrari is 952 km, find the total time taken for Rohit to drive that distance.***

(a)14.88
(b)476
(c)29.75
(d)15.88

3. A man is standing in front of a painting of a man, and he tells us the following: Brothers and sisters have I none, but this man's father is my father's son. Who is on the painting?
(a)He himself
(b)His father
(c)His son
(d)His grandfather

4. One day Rapunzel meets Dwarf and Byte in the Forest of forgetfulness. She knows that Dwarf lies on Mondays, Tuesdays and Wednesdays, and tells the truth on the other days of the week. Byte, on the other hand, lies on Thursdays, Fridays and Saturdays, but tells the truth on the other days of the week. Now they make the following statements to Rapunzel - Dwarf: Yesterday was one of those days when I lie. Byte: Yesterday was one of those days when I lie too. What day is it?
(a)Tuesday
(b)Sunday
(c)Thursday
(d)Monday

5. A greengrocer was selling apple at a penny each, chickoos at 2 for a penny and peanuts at 3 for a penny. A father spent 7p and got the same amount of each type of fruit for each of his three children. What did each child get?
1 apple, 2 chickoos, 1 peanut
1 apple, 1 chickoo, 1 peanut
1 apple, 3 chickoos, 2 peanuts
1 apple, 2 chickoos, 2 peanuts

7. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?
900
800
500
488

8. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is
37/38

1/2
14/19
3/4

9. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If 1/32 of B's volume is filled after 3 hours, what is the total duration required to fill it completely?

7 hours
9 hours
8 hours
10 hours

10. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

8
37.80
40
5

11. Planet fourfi resides in 4-dimensional space and thus the currency used by its residents are 3-dimensional objects. The rupee notes are cubical in shape while their coins are spherical. However the coin minting machinery lays out some stipulations on the size of the coins.
The diameter of the coins should be at least 64mm and not exceed 512mm.
Given a coin, the diameter of the next larger coin is at least 50% greater.
The diameter of the coin must always be an integer.
You are asked to design a set of coins of different diameters with these requirements and your goal is to design as many coins as possible. How many coins can you design?

12. The pace length P is the distance between the rear of two consecutive footprints. For men, the formula, n/P = 144 gives an approximate relationship between n and P where, n = number of steps per minute and P = pace length in meters. Bernard knows his pace length is 164cm. The formula applies to Bernard's walking. Calculate Bernard's walking speed in kmph.

On the planet Oz, there are 8 days in a week- Sunday to Saturday and another day called Oz day. There are 36 hours in a day and each hour has 90 min while each minute has 60 sec. As on earth, the hour hand covers the dial twice every day.
Find the approximate angle between the hands of a clock on Oz when the time is 12:40 am.

13. The IT giant Tirnop has recently crossed a head count of 150000 and earnings of $7 billion. As one of the forerunners in the technology front, Tirnop continues to lead the way in products and services in India. At Tirnop, all programmers are equal in every respect. They receive identical salaries and also write code at the same rate. Suppose 12 such programmers take 12 minutes to write 12 lines of code in total. How many lines of code can be written by 72 programmers in 72 minutes?

14. Given a collection of points P in the plane, a 1-set is a point in P that can be separated from the rest by a line; i.e. the point lies on one side of the line while the others lie on the other side. The

number of 1-sets of P is denoted by n1(P). The maximum value of n1(P) over all configurations P of 10 points in the plane is

15. Alok and Bhanu play the following min-max game. Given the expression
N = 12 + X*(Y - Z)
where X, Y and Z are variables representing single digits (0 to 9), Alok would like to maximize N while Bhanu would like to minimize it. Towards this end, Alok chooses a single digit number and Bhanu substitutes this for a variable of her choice (X, Y or Z). Alok then chooses the next value and Bhanu, the variable to substitute the value. Finally Alok proposes the value for the remaining variable. Assuming both plays to their optimal strategies, the value of N at the end of the game would be

16. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is

37/38
14/19
3/4

17. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

18. A sheet of paper has statements numbered from 1 to 30. For all values of n from 1 to 30, statement n says "At most n of the statements on this sheet are false". Which statements are true and which are false?

All statements are false.
The odd numbered statements are true and the even numbered are false.
The even numbered statements are true and the odd numbered are false.
All statements are true.

19. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

20. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If 1/32 of B's volume is filled after 3 hours, what is the total duration required to fill it completely?

7 hours
9 hours
10 hours
8 hours

21. Anoop managed to draw 7 circles of equal radii with their centres on the diagonal of a square such that the two extreme circles touch two sides of the square and each middle circle touches two circles on either side. Find the ratio of the radius of the circles to the side of the square.

1:(2+ 6)
1:(2+ 6√2)
1:(4+ 7
1:(4+ 7√3)
1
1:(2+ 7
1:(2+ 7√2)
(2+ 7√2):1

22. The teacher is testing a student's proficiency in arithmetic and poses the following question. 1/3 of a number is 3 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?

23. The IT giant Tirnop has recently crossed a head count of 150000 and earnings of $7 billion. As one of the forerunners in the technology front, Tirnop continues to lead the way in products and services in India. At Tirnop, all programmers are equal in every respect. They receive identical salaries ans also write code at the same rate. Suppose 12 such programmers take 12 minutes to write 12 lines of code in total. How long will it take 72 programmers to write 72 lines of code in total?

72
6
12
18

24. .Alok and Bhanu play the following min-max game. Given the expression

N = 12 + X*(Y - Z)

where X, Y and Z are variables representing single digits (0 to 9), Alok would like to maximize N while Bhanu would like to minimize it. Towards this end, Alok chooses a single digit number and Bhanu substitutes this for a variable of her choice (X, Y or Z). Alok then chooses the next value and Bhanu, the variable to substitute the value. Finally Alok proposes the value for the remaining variable. Assuming both play to their optimal strategies, the value of N at the end of the game would be

-69
93
12
30

25. Given a collection of points P in the plane, a 1-set is a point in P that can be separated from the rest by a line; i.e. the point lies on one side of the line while the others lie on the other side. The number of 1-sets of P is denoted by n1(P). The maximum value of n1(P) over all configurations P of 10 points in the plane is

5
10

3

26. On the planet Oz, there are 8 days in a week- Sunday to Saturday and another day called Oz day. There are 36 hours in a day and each hour has 90 min while each minute has 60 sec. As on earth, the hour hand covers the dial twice every day.

4.Find the approximate angle between the hands of a clock on Oz when the time is 12:40 am.
251
111
71
89

27. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

37.80
8
5
40

29. Anoop managed to draw 7 circles of equal radii with their centres on the diagonal of a square such that the two extreme circles touch two sides of the square and each middle circle touches two circles on either side. Find the ratio of the radius of the circles to the side of the square.
1:(2+ 6
1:(2+ 6√2)
(2+ 7√2):1
1:(2+ 7√2)
1:(4+ 7√3)

30. A sheet of paper has statements numbered from 1 to 30. For all values of n from 1 to 30, statement n says "At most n of the statements on this sheet are false". Which statements are true and which are false?
The odd numbered statements are true and the even numbered are false.
All statements are false.
All statements are true.
The even numbered statements are true and the odd numbered are false.

31. The pace length P is the distance between the rear of two consecutive footprints. For men, the formula, n/P = 144 gives an approximate relationship between n and P where, n = number of steps per minute and P = pace length in meters. Bernard knows his pace length is 164cm. The formula applies to Bernard's walking. Calculate Bernard's walking speed in kmph.
11.39
23.62
8.78
236.16

32. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is

14/19
3/4
1/2
37/38

33. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

500
800
488
900

34. The teacher is testing a student's proficiency in arithmetic and poses the following question.

1/3 of a number is 3 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?

6
18
21
12

35. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If 1/32 of B's volume is filled after 3 hours, what is the total duration required to fill it completely?

8 hours
9 hours
10 hours
7 hours

36. Planet fourfi resides in 4-dimensional space and thus the currency used by its residents are 3-dimensional objects. The rupee notes are cubical in shape while their coins are spherical. However the coin minting machinery lays out some stipulations on the size of the coins.

•The diameter of the coins should be at least 64mm and not exceed 512mm.
•Given a coin, the diameter of the next larger coin is at least 50% greater.
•The diameter of the coin must always be an integer.
You are asked to design a set of coins of different diameters with these requirements and your goal is to design as many coins as possible. How many coins can you design?

6
9
8

37. Ferrari S.p.A. is an Italian sports car manufacturer based in Maranello, Italy. Founded by Enzo Ferrari in 1928 as Scuderia Ferrari, the company sponsored drivers and manufactured race cars before moving into production of street-legal vehicles in 1947 as Ferrari S.p.A.. Throughout its history, the company has been noted for its continued participation in racing, especially in Formula One, where it has enjoyed great success. Rohit once bought a Ferrari. It could go 2 times as fast as Mohit's old Mercedes. If the speed of Mohit's Mercedes is 32 km/hr and the distance travelled by the Ferrari is 952 km, find the total time taken in hours for Rohit to drive that distance.

15.88
29.75
14.88
476

38. For the FIFA world cup, Paul the octopus has been predicting the winner of each match with amazing success. It is rumored that in a match between 2 teams A and B, Paul picks A with the same probability as A's chances of winning.

Let's assume such rumors to be true and that in a match between Ghana and Bolivia, Ghana the stronger team has a probability of 2/3 of winning the game. What is the probability that Paul will correctly pick the winner of the Ghana-Bolivia game?

4/9
5/9
1/9
2/3

39. A sheet of paper has statements numbered from 1 to 40. For each value of n from 1 to 40, statement n says "At least n of the statements on this sheet are true." Which statements are true and which are false?

The first 13 statements are true and the rest are false.
The first 26 statements are false and the rest are true.
The odd numbered statements are true and the even numbered are false.
The even numbered statements are true and the odd numbered are false

40. Alice and Bob play the following coins-on-a-stack game. 20 coins are stacked one above the other. One of them is a special (gold) coin and the rest are ordinary coins. The goal is to bring the gold coin to the top by repeatedly moving the topmost coin to another position in the stack.

Alice starts and the players take turns
s. A turn consists of moving the coin on the top to a position i below the top coin ($0 \leq i \leq 20$). We will call this an i-move (thus a 0-move implies doing nothing). The proviso is that an i-move cannot be repeated; for example once a player makes a 2-move on subsequent turns neither player can make a 2-move.

If the gold coin happens to be on top when it's a player's turn then the player wins the game.

Initially, the gold coins the third coin from the top. Then

Alice has no winning strategy.
In order to win, Alice's first move should be a 0-move.
In order to win, Alice's first move can be a 0-move or a 1-move.

In order to win, Alice's first move should be a 1-move

41. A circular dartboard of radius 1 foot is at a distance of 20 feet from you. You throw a dart at it and it hits the dartboard at some point Q in the circle. What is the probability that Q is closer to the center of the circle than the periphery?

0.5
0.75
0.25
1

42. Suspects are rounded by the police and questioned about a bank robbery. Only one of them is guilty. The suspects are made to stand in a line and each person declares that the person next to him on his right is guilty. The rightmost person is not questioned. Which of the following possibilities are true?

A. All suspects are lying or the leftmost suspect is innocent.
B. All suspects are lying and the leftmost suspect is innocent.
B only
Neither A nor B
Both A and B
A only

43. A sheet of paper has statements numbered from 1 to 40. For all values of n from 1 to 40, statement n says: 'Exactly n of the statements on this sheet are false.' Which statements are true and which are false?

All the statements are false.
The odd numbered statements are true and the even numbered statements are false.
The even numbered statements are true and the odd numbered statements are false.
The 39th statement is true and the rest are false

44. 36 people {a1, a2, ..., a36} meet and shake hands in a circular fashion. In other words, there are totally 36 handshakes involving the pairs, {a1, a2}, {a2, a3}, ..., {a35, a36}, {a36, a1}. Then size of the smallest set of people such that the rest have shaken hands with at least one person in the set is

11
12
18
13

45. After the typist writes 12 letters and addresses 12 envelopes, she inserts the letters randomly into the envelopes (1 letter per envelope). What is the probability that exactly 1 letter is inserted in an improper envelope?

1/12
0
11/12
12/212

46. Alok is attending a workshop "How to do more with less" and today's theme is Working

with fewer digits . The speakers discuss how a lot of miraculous mathematics can be achieved if mankind (as well as womankind) had only worked with fewer digits.

The problem posed at the end of the workshop is

How many 5 digit numbers can be formed using the digits 1, 2, 3, 4, 5 (but with repetition) that are divisible by 4?

Can you help Alok find the answer?
3125
500
375
625

47. 10 people meet and shake hands. The maximum number of handshakes possible if there is to be no "cycle" of handshakes is (A cycle of handshakes is a sequence of k people a1, a2, ..., ak (k > 2) such that the pairs {a1, a2}, {a2, a3}, ..., {ak-1, ak}, {ak, a1} shake hands).
9
6
7
8

48. Given 3 lines in the plane such that the points of intersection form a triangle with sides of length 20, 20 and 30, the number of points equidistant from all the 3 lines is
1
4
3
0

49. The citizens of planet nigiet are 8 fingered and have thus developed their decimal system in base 8. A certain street in nigiet contains 1000 (in base 8) buildings numbered 1 to 1000. How many 3s are used in numbering these buildings?
54
192
64
256

50. On planet zorba, a solar blast has melted the ice caps on its equator. 8 years after the ice melts, tiny planetoids called echina start growing on the rocks. echina grows in the form of a circle and the relationship between the diameter of this circle and the age of echina is given by the formula
d = 4 *
d = 4 * $\sqrt{}$ (t - 8) for t $\geq$ 8
where d represents the diameter in mm and t the number of years since the solar blast.

51. Jagan recorded the radius of some echina at a particular spot as 8mm. How many years back did the solar blast occur?

24
16
(t - 8) for t e∠8
where d represents the diameter in mm and t the number of years since the solar blast.
Jagan recorded the radius of some echina at a particular spot as 8mm. How many years back did the solar blast occur?

24
16

52. Planet fourfi resides in 4-dimensional space and thus the currency used by its residents are 3-dimensional objects. The rupee notes are cubical in shape while their coins are spherical. However the coin minting machinery lays out some stipulations on the size of the coins.
The diameter of the coins should be at least 64mm and not exceed 512mm.
Given a coin, the diameter of the next larger coin is at least 50% greater.
The diameter of the coin must always be an integer.
You are asked to design a set of coins of different diameters with these requirements and your goal is to design as many coins as possible. How many coins can you design?

53. The pace length P is the distance between the rear of two consecutive footprints. For men, the formula, n/P = 144 gives an approximate relationship between n and P where, n = number of steps per minute and P = pace length in meters. Bernard knows his pace length is 164cm. The formula applies to Bernard's walking. Calculate Bernard's walking speed in kmph.
236.16
23.62
11.39
8.78 3

54. Ferrari S.p.A. is an Italian sports car manufacturer based in Maranello, Italy. Founded by Enzo Ferrari in 1928 as Scuderia Ferrari, the company sponsored drivers and manufactured race cars before moving into production of street-legal vehicles in 1947 as Ferrari S.p.A.. Throughout its history, the company has been noted for its continued participation in racing, especially in Formula One, where it has enjoyed great success. Rohit once bought a Ferrari. It could go 2 times as fast as Mohit's old Mercedes. If the speed of Mohit's Mercedes is 32 km/hr and the distance travelled by the Ferrari is 952 km, find the total time taken in hours for Rohit to drive that distance.

15.88
29.75
14.88

55. On the planet Oz, there are 8 days in a week- Sunday to Saturday and another day called Oz day. There are 36 hours in a day and each hour has 90 min while each minute has 60 sec. As on earth, the hour hand covers the dial twice every day.
Find the approximate angle between the hands of a clock on Oz when the time is 12:40 am.

56. Given a collection of points P in the plane, a 1-set is a point in P that can be separated from the rest by a line; i.e. the point lies on one side of the line while the others lie on the other side. The number of 1-sets of P is denoted by n1(P). The maximum value of n1(P) over all configurations P of

10 points in the plane is

58. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is
37/38
14/19
3/4

59. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

60. A sheet of paper has statements numbered from 1 to 30. For all values of n from 1 to 30, statement n says "At most n of the statements on this sheet are false". Which statements are true and which are false?
All statements are false.
The odd numbered statements are true and the even numbered are false.
The even numbered statements are true and the odd numbered are false.
All statements are true.

61. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

62. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If 1/32 of B's volume is filled after 3 hours, what is the total duration required to fill it completely?
7 hours
9 hours
10 hours
8 hours

63. The teacher is testing a student's proficiency in arithmetic and poses the following question.
1/3 of a number is 3 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?

65. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

66. A man is standing in front of a painting of a man, and he tells us the following: Brothers and sisters have I none, but this man's father is my father's son. Who is on the painting?
His son

He himself
His grandfather
His father

67. A man is standing in front of a painting of a man, and he tells us the following: Brothers and sisters have I none, but this man's father is my father's son. Who is on the painting?
His son
He himself
His grandfather
His father

68. A hunter leaves his cabin early in the morning and walks one mile due south. Here he sees a bear and starts chasing it for one mile due east before he is able to shoot the bear. After shooting the bear, he drags it one mile due north back to his cabin where he started that morning. What color is the bear?
White
Black

69. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

70. One day Rapunzel meets Dwarf and Byte in the Forest of forgetfulness. She knows that Dwarf lies on Mondays, Tuesdays and Wednesdays, and tells the truth on the other days of the week. Byte, on the other hand, lies on Thursdays, Fridays and Saturdays, but tells the truth on the other days of the week. Now they make the following statements to Rapunzel - Dwarf Yesterday was one of those days when I lie. Byte: Yesterday was one of those days when I lie too. What day is it?
Monday
Thursday
Tuesday
Sunday

71. Rearrange the following letters to make a word and choose the category in which it fits. RAPETEKA
Vegetable
City

72. Ferrari S.p.A. is an Italian sports car manufacturer based in Maranello, Italy. Founded by Enzo Ferrari in 1928 as Scuderia Ferrari, the company sponsored drivers and manufactured race cars before moving into production of street-legal vehicles in 1947 as Ferrari S.p.A.. Throughout its history, the company has been noted for its continued participation in racing, especially in Formula One, where it has enjoyed great success. Rohit once bought a Ferrari. It could go 2 times as fast as Mohit's old Mercedes. If the speed of Mohit's Mercedes is 32 km/hr and the distance traveled by the Ferrari is 952 km, find the total time taken for Rohit to drive that distance.
14.88
29.75

73. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is

74. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If 1/32 of B's volume is filled after 3 hours, what is the total duration required to fill it completely?
9 hours
10 hours
8 hours
7 hours

75. The difference between the ages of two of my three grandchildren is 3. My eldest grandchild is three times older than the age of my youngest grandchild and my eldest grandchild's age is two years more than the ages of my two youngest grandchildren added together. How old is my eldest grandchild?

76. One day Rapunzel meets Dwarf and Byte in the Forest of forgetfulness. She knows that Dwarf lies on Mondays, Tuesdays and Wednesdays, and tells the truth on the other days of the week. Byte, on the other hand, lies on Thursdays, Fridays and Saturdays, but tells the truth on the other days of the week. Now they make the following statements to Rapunzel - Dwarf: Yesterday was one of those days when I lie. Byte: Yesterday was one of those days when I lie too. What day is it?
Thursday
Tuesday
Sunday
Monday

77. A greengrocer was selling apple at a penny each, chickoos at 2 for a penny and peanuts at 3 for a penny. A father spent 7p and got the same amount of each type of fruit for each of his three children. What did each child get?
1 apple, 2 chickoos, 1 peanut
1 apple, 3 chickoos
1 apple, 2 chickoos, 2 peanuts
1 apple, 1 chickoo, 1 peanut

78. Ferrari S.p.A. is an Italian sports car manufacturer based in Maranello, Italy. Founded by Enzo Ferrari in 1928 as Scuderia Ferrari, the company sponsored drivers and manufactured race cars before moving into production of street-legal vehicles in 1947 as Ferrari S.p.A.. Throughout its history, the company has been noted for its continued participation in racing, especially in Formula One, where it has enjoyed great success. Rohit once bought a Ferrari. It could go 2 times as fast as Mohit's old Mercedes. If the speed of Mohit's Mercedes is 32 km/hr and the distance travelled by the Ferrari is 952 km, find the total time taken for Rohit to drive that distance.
14.88
29.75
15.88

79. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

80. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is
37/38
14/19

81. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If 1/32 of B's volume is filled after 3 hours, what is the total duration required to fill it completely?
7 hours
9 hours
8 hours
10 hours

82. Rearrange the following letters to make a word and choose the category in which it fits.
RAPETEKA
Vegetable
Fruit

83. A hunter leaves his cabin early in the morning and walks one mile due south. Here he sees a bear and starts chasing it for one mile due east before he is able to shoot the bear. After shooting the bear, he drags it one mile due north back to his cabin where he started that morning. What color is the bear?
Black
Brown
White

84. A sheet of paper has statements numbered from 1 to 40. For each value of n from 1 to 40, statement n says "At least n of the statements on this sheet are true." Which statements are true and which are false?
The odd numbered statements are true and the even numbered are false.
The first 13 statements are true and the rest are false.
The even numbered statements are true and the odd numbered are false.
The first 26 statements are false and the rest are true.
ANS: All the statements are true but there is not such an option.

85. Alok is attending a workshop "How to do more with less" and today's theme is Working with fewer digits . The speakers discuss how a lot of miraculous mathematics can be achieved if mankind (as well as womankind) had only worked with fewer digits.
The problem posed at the end of the workshop is
How many 5 digit numbers can be formed using the digits 1, 2, 3, 4, 5 (but with repetition) that are divisible by 4?

Can you help Alok find the answer?

86. 36 people {a1, a2, ..., a36} meet and shake hands in a circular fashion. In other words, there are totally 36 handshakes involving the pairs, {a1, a2}, {a2, a3}, ..., {a35, a36}, {a36, a1}. Then size of the smallest set of people such that the rest have shaken hands with at least one person in the set is
11

87. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

500 800 488 900

88. A sheet of paper has statements numbered from 1 to 30. For all values of n from 1 to 30, statement n says "At most n of the statements on this sheet are false". Which statements are true and which are false?
The even numbered statements are true and the odd numbered are false.
The odd numbered statements are true and the even numbered are false.
All statements are true.
All statements are false.
ANS: All statements are true.

89. Planet fourfi resides in 4-dimensional space and thus the currency used by its residents are 3-dimensional objects. The rupee notes are cubical in shape while their coins are spherical. However the coin minting machinery lays out some stipulations on the size oft he coins.The diameter of the coins should be at least 64mm and not exceed 512mm. Given a coin, the diameter of the next larger coin is at least 50% greater.
The diameter of the coin must always be an integer.You are asked to design a set of coins of different diameters with these requirements and your goal is to design as many coins as possible. How many coins can you design?
8 5 6 9

90. On the planet Oz, there are 8 days in a week- Sunday to Saturday and another day called Oz day. There are 36 hours in a day and each hour has 90 min while each minute has 60 sec. As on earth, the hour hand covers the dial twice every day.

Find the approximate angle between the hands of a clock on Oz when the time is 12:40 am.

91. Given a collection of points P in the plane, a 1-set is a point in P that can be separated from the rest by a line; i.e. the point lies on one side of the line while the others lie on the other side. The number of 1-sets of P is denoted by n1(P). The maximum value of n1(P) over all configurations P of 10 points in the plane is
9 10 3 5

92. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and

a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is:

3/4 1/2 14/19 37/38

93. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If 1/32 of B's volume is filled after 3 hours, what is the total duration required to fill it completely?

7 hours 8 hours 9 hours 10 hours

94. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

37.80 5 40 8

95. Anoop managed to draw 7 circles of equal radii with their centres on the diagonal of a square such that the two extreme circles touch two sides of the square and each middle circle touches two circles on either side. Find the ratio of the radius of the circles to the side of the square.

1:(2+ 7√2) 1:(4+ 7√3) 1:(2+ 6√2) (2+ 7√2):1

95. The pace length P is the distance between the rear of two consecutive footprints. For men, the formula, n/P = 144 gives an approximate relationship between n and P where, n = number of steps per minute and P = pace length in meters. Bernard knows his pace length is 164cm. The formula applies to Bernard's walking. Calculate Bernard's walking speed in kmph.

23.62 236.16 8.78 11.39

96. The teacher is testing a student's proficiency in arithmetic and poses the following question.

1/3 of a number is 3 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?

18 6 21 12

97. 10 suspects are rounded by the police and questioned about a bank robbery. Only one of them is guilty. The suspects are made to stand in a line and each person declares that the person next to him on his right is guilty. The rightmost person is not questioned. Which of the following possibilities are true?

A. All suspects are lying or the leftmost suspect is innocent.
B. All suspects are lying and the leftmost suspect is innocent .

Neither A nor B
B only
A only
Both A and B

98. After the typist writes 12 letters and addresses 12 envelopes, she inserts the letters randomly into the envelopes (1 letter per envelope). What is the probability that exactly 1 letter is inserted in an improper envelope?

11/12
0
12/2^12
1/12

99. A circular dartboard of radius 1 foot is at a distance of 20 feet from you. You throw a dart at it and it hits the dartboard at some point Q in the circle. What is the probability that Q is closer to the center of the circle than the periphery?

0.75
0.25
0.5
1

100. On planet zorba, a solar blast has melted the ice caps on its equator. 8 years after the ice melts, tiny plantoids called echina start growing on the rocks. echina grows in the form of a circle and the relationship between the diameter of this circle and the age of echina is given by the formula

d = 4 *
d = 4 * √ (t - 8) for t ≥ 8

where d represents the diameter in mm and t the number of years since the solar blast.
Jagan recorded the radius of some echina at a particular spot as 8mm. How many years back did the solar blast occur?

24
12
8
16

101. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

5
37.80
40
8

102. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

900
800
488
500

103. A hunter leaves his cabin early in the morning and walks one mile due south. Here he sees a bear and starts chasing it for one mile due east before he is able to shoot the bear. After shooting the bear, he drags it one mile due north back to his cabin where he started that morning. What color is the bear?

Brown
Black
Grey
White

104. The difference between the ages of two of my three grandchildren is 3. My eldest grandchild is three times older than the age of my youngest grandchild and my eldest grandchild's age is two years more than the ages of my two youngest grandchildren added together. How old is my eldest grandchild?

12
15
10
13

105. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is

3/4
37/38
14/19
½

106. A hare and a tortoise have a race along a circ
le of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

8
37.80
5
40

MODEL : 4

- Instructions
- Preview duration will be 40 minutes.
- The clock starts when you login using your registered email id for preview.
- Count down timer at the top right corner will display time to closure.
- The system will log you out of the preview at the end of 40 minutes.
- Click one of the option buttons to select your choice.
- To change a choice, simply click the desired option button.
- To deselect your choice, click the Reset button.
- To save your choice before moving to the next screen, click on Save & Next. The next

screen will automatically be displayed.

- Click on Skip to move to the next screen. This will not save your current option. The next screen will automatically be displayed.
- To go to a specific screen, click the number on the preview palette.
- The color coded diagram on the preview palette shows the status.

1. The teacher is testing a student's proficiency in arithmetic and poses the following question. 1/3 of a number is 3 more than 1/6 of the same number. What is the number?
Can you help the student find the answer
(a)12; (b)18; (c)21; (d) 6

3. A man is standing in front of a painting of a man, and he tells us the following: Brothers and sisters have I none, but this man's father is my father's son. Who is on the painting?
(a)He himself; b)His father; (c)His son; (d)His grandfather

4. One day Rapunzel meets Dwarf and Byte in the Forest of forgetfulness. She knows that Dwarf lies on Mondays, Tuesdays and Wednesdays, and tells the truth on the other days of the week. Byte, on the other hand, lies on Thursdays, Fridays and Saturdays, but tells the truth on the other days of the week. Now they make the following statements to Rapunzel - Dwarf: Yesterday was one of those days when I lie. Byte: Yesterday was one of those days when I lie too. What day is it?
(a)Tuesday; (b)Sunday; (c)Thursday; (d)Monday

7. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?
900; 800; 500; 488

8. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is
37/38; ½; 14/19; 3/4

10. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

8; 37.80; 40; 5

11. Planet fourfi resides in 4-dimensional space and thus the currency used by its residents are 3-dimensional objects. The rupee notes are cubical in shape while their coins are spherical. However the coin minting machinery lays out some stipulations on the size of the coins.
The diameter of the coins should be at least 64mm and not exceed 512mm.
Given a coin, the diameter of the next larger coin is at least 50% greater.
The diameter of the coin must always be an integer.
You are asked to design a set of coins of different diameters with these requirements and your goal

is to design as many coins as possible. How many coins can you design?

12. The pace length P is the distance between the rear of two consecutive footprints. For men, the formula, n/P = 144 gives an approximate relationship between n and P where, n = number of steps per minute and P = pace length in meters. Bernard knows his pace length is 164cm. The formula applies to Bernard's walking. Calculate Bernard's walking speed in kmph.

On the planet Oz, there are 8 days in a week- Sunday to Saturday and another day called Oz day. There are 36 hours in a day and each hour has 90 min while each minute has 60 sec. As on earth, the hour hand covers the dial twice every day.
Find the approximate angle between the hands of a clock on Oz when the time is 12:40 am.

14. Given a collection of points P in the plane, a 1-set is a point in P that can be separated from the rest by a line; i.e. the point lies on one side of the line while the others lie on the other side. The number of 1-sets of P is denoted by n1(P). The maximum value of n1(P) over all configurations P of 10 points in the plane is

15. Alok and Bhanu play the following min-max game. Given the expression
N = 12 + X*(Y - Z)
where X, Y and Z are variables representing single digits (0 to 9), Alok would like to maximize N while Bhanu would like to minimize it. Towards this end, Alok chooses a single digit number and Bhanu substitutes this for a variable of her choice (X, Y or Z). Alok then chooses the next value and Bhanu, the variable to substitute the value. Finally Alok proposes the value for the remaining variable. Assuming both plays to their optimal strategies, the value of N at the end of the game would be

16. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is

37/38 ; 14/19; 3/4

17. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

18. A sheet of paper has statements numbered from 1 to 30. For all values of n from 1 to 30, statement n says "At most n of the statements on this sheet are false". Which statements are true and which are false?

All statements are false.

The odd numbered statements are true and the even numbered are false.
The even numbered statements are true and the odd numbered are false.
All statements are true.

19. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its

distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

21. Anoop managed to draw 7 circles of equal radii with their centres on the diagonal of a square such that the two extreme circles touch two sides of the square and each middle circle touches two circles on either side. Find the ratio of the radius of the circles to the side of the square.
1:(2+ 6; 1:(2+ 6√2); 1:(4+ 7); 1:(4+ 7√3); 1; 1:(2+ 7); 1:(2+ 7√2); (2+ 7√2):1

22. The teacher is testing a student's proficiency in arithmetic and poses the following question.
1/3 of a number is 3 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?

24. .Alok and Bhanu play the following min-max game. Given the expression

N = 12 + X*(Y - Z)

where X, Y and Z are variables representing single digits (0 to 9), Alok would like to maximize N while Bhanu would like to minimize it. Towards this end, Alok chooses a single digit number and Bhanu substitutes this for a variable of her choice (X, Y or Z). Alok then chooses the next value and Bhanu, the variable to substitute the value. Finally Alok proposes the value for the remaining variable. Assuming both play to their optimal strategies, the value of N at the end of the game would be
-69 ; 93; 12; 30;

25. Given a collection of points P in the plane, a 1-set is a point in P that can be separated from the rest by a line; i.e. the point lies on one side of the line while the others lie on the other side. The number of 1-sets of P is denoted by n1(P). The maximum value of n1(P) over all configurations P of 10 points in the plane is
5; 10; 3;

26. On the planet Oz, there are 8 days in a week- Sunday to Saturday and another day called Oz day. There are 36 hours in a day and each hour has 90 min while each minute has 60 sec. As on earth, the hour hand covers the dial twice every day.

4.Find the approximate angle between the hands of a clock on Oz when the time is 12:40 am.
251; 111; 71; 89

27. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

37.80; 8; 5; 40

29. Anoop managed to draw 7 circles of equal radii with their centres on the diagonal of a square such that the two extreme circles touch two sides of the square and each middle circle touches two circles on either side. Find the ratio of the radius of the circles to the side of the square.
1:(2+ 6); 1:(2+ 6√2); (2+ 7√2):1; 1:(2+ 7√2); 1:(4+ 7√3)

30. A sheet of paper has statements numbered from 1 to 30. For all values of n from 1 to 30, statement n says "At most n of the statements on this sheet are false". Which statements are true and which are false?
The odd numbered statements are true and the even numbered are false.
All statements are false.
All statements are true.
The even numbered statements are true and the odd numbered are false.

31. The pace length P is the distance between the rear of two consecutive footprints. For men, the formula, n/P = 144 gives an approximate relationship between n and P where, n = number of steps per minute and P = pace length in meters. Bernard knows his pace length is 164cm. The formula applies to Bernard's walking. Calculate Bernard's walking speed in kmph.
11.39; 23.62; 8.78; 236.16

32. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is
14/19 ; ¾; ½; 37/38

33. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?
500; 800; 488; 900

34. The teacher is testing a student's proficiency in arithmetic and poses the following question.

1/3 of a number is 3 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?
6; 18; 21; 12

35. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If 1/32 of B's volume is filled after 3 hours, what is the total duration required to fill it completely?
8 hours; 9 hours; 10 hours; 7 hours

36. Planet fourfi resides in 4-dimensional space and thus the currency used by its residents are 3-dimensional objects. The rupee notes are cubical in shape while their coins are spherical. However the coin minting machinery lays out some stipulations on the size of the coins.

•The diameter of the coins should be at least 64mm and not exceed 512mm.
•Given a coin, the diameter of the next larger coin is at least 50% greater.
•The diameter of the coin must always be an integer.
You are asked to design a set of coins of different diameters with these requirements and your goal is to design as many coins as possible. How many coins can you design?
6; 9; 8

38. For the FIFA world cup, Paul the octopus has been predicting the winner of each match with amazing success. It is rumored that in a match between 2 teams A and B, Paul picks A with the same probability as A's chances of winning.

Let's assume such rumors to be true and that in a match between Ghana and Bolivia, Ghana the stronger team has a probability of 2/3 of winning the game. What is the probability that Paul will correctly pick the winner of the Ghana-Bolivia game?
4/9; 5/9; 1/9;2/3

39. A sheet of paper has statements numbered from 1 to 40. For each value of n from 1 to 40, statement n says "At least n of the statements on this sheet are true." Which statements are true and which are false?
The first 13 statements are true and the rest are false.
The first 26 statements are false and the rest are true.
The odd numbered statements are true and the even numbered are false.
The even numbered statements are true and the odd numbered are false

40. Alice and Bob play the following coins-on-a-stack game. 20 coins are stacked one above the other. One of them is a special (gold) coin and the rest are ordinary coins. The goal is to bring the gold coin to the top by repeatedly moving the topmost coin to another position in the stack.

Alice starts and the players take turns
s. A turn consists of moving the coin on the top to a position i below the top coin ($0 \leq i \leq 20$). We will call this an i-move (thus a 0-move implies doing nothing). The proviso is that an i-move cannot be repeated; for example once a player makes a 2-move on subsequent turns neither player can make a 2-move.

If the gold coin happens to be on top when it's a player's turn then the player wins the game.

Initially, the gold coins the third coin from the top. Then
Alice has no winning strategy.
In order to win, Alice's first move should be a 0-move.
In order to win, Alice's first move can be a 0-move or a 1-move.
In order to win, Alice's first move should be a 1-move

41. A circular dartboard of radius 1 foot is at a distance of 20 feet from you. You throw a dart at it and it hits the dartboard at some point Q in the circle. What is the probability that Q is closer to the center of the circle than the periphery?
0.5; 0.75; 0.25; 1

42. Suspects are rounded by the police and questioned about a bank robbery. Only one of them is guilty. The suspects are made to stand in a line and each person declares that the person next to him on his right is guilty. The rightmost person is not questioned. Which of the following possibilities are true?

A. All suspects are lying or the leftmost suspect is innocent.
B. All suspects are lying and the leftmost suspect is innocent.
B only

Neither A nor B
Both A and B
A only

43. A sheet of paper has statements numbered from 1 to 40. For all values of n from 1 to 40, statement n says: 'Exactly n of the statements on this sheet are false.' Which statements are true and which are false?
All the statements are false.
The odd numbered statements are true and the even numbered statements are false.
The even numbered statements are true and the odd numbered statements are false.
The 39th statement is true and the rest are false

44. 36 people {a1, a2, ..., a36} meet and shake hands in a circular fashion. In other words, there are totally 36 handshakes involving the pairs, {a1, a2}, {a2, a3}, ..., {a35, a36}, {a36, a1}. Then size of the smallest set of people such that the rest have shaken hands with at least one person in the set is
11; 12; 18; 13

45. After the typist writes 12 letters and addresses 12 envelopes, she inserts the letters randomly into the envelopes (1 letter per envelope). What is the probability that exactly 1 letter is inserted in an improper envelope?
1/12; 0; 11/12; 12/212

46. Alok is attending a workshop "How to do more with less" and today's theme is Working with fewer digits . The speakers discuss how a lot of miraculous mathematics can be achieved if mankind (as well as womankind) had only worked with fewer digits.
The problem posed at the end of the workshop is
How many 5 digit numbers can be formed using the digits 1, 2, 3, 4, 5 (but with repetition) that are divisible by 4?
Can you help Alok find the answer?
3125; 500; 375; 625

47. 10 people meet and shake hands. The maximum number of handshakes possible if there is to be no "cycle" of handshakes is (A cycle of handshakes is a sequence of k people a1, a2, ..., ak (k > 2) such that the pairs {a1, a2}, {a2, a3}, ..., {ak-1, ak}, {ak, a1} shake hands).
9 ; 6; 7; 8

48. Given 3 lines in the plane such that the points of intersection form a triangle with sides of length 20, 20 and 30, the number of points equidistant from all the 3 lines is
1; 4; 3; 0

49. The citizens of planet nigiet are 8 fingered and have thus developed their decimal system in base 8. A certain street in nigiet contains 1000 (in base 8) buildings numbered 1 to 1000. How many 3s are used in numbering these buildings?
54; 192; 64; 256

52. Planet fourfi resides in 4-dimensional space and thus the currency used by its residents are 3-dimensional objects. The rupee notes are cubical in shape while their coins are spherical.

However the coin minting machinery lays out some stipulations on the size of the coins.
The diameter of the coins should be at least 64mm and not exceed 512mm.
Given a coin, the diameter of the next larger coin is at least 50% greater.
The diameter of the coin must always be an integer.
You are asked to design a set of coins of different diameters with these requirements and your goal is to design as many coins as possible. How many coins can you design?

53. The pace length P is the distance between the rear of two consecutive footprints. For men, the formula, n/P = 144 gives an approximate relationship between n and P where, n = number of steps per minute and P = pace length in meters. Bernard knows his pace length is 164cm. The formula applies to Bernard's walking. Calculate Bernard's walking speed in kmph.
236.16 ; 23.62 ; 11.39 ; 8.78 3

55. On the planet Oz, there are 8 days in a week- Sunday to Saturday and another day called Oz day. There are 36 hours in a day and each hour has 90 min while each minute has 60 sec. As on earth, the hour hand covers the dial twice every day.
Find the approximate angle between the hands of a clock on Oz when the time is 12:40 am.

56. Given a collection of points P in the plane, a 1-set is a point in P that can be separated from the rest by a line; i.e. the point lies on one side of the line while the others lie on the other side. The number of 1-sets of P is denoted by n1(P). The maximum value of n1(P) over all configurations P of 10 points in the plane is

57. Alok and Bhanu play the following min-max game. Given the expression
N = 12 + X*(Y - Z)
where X, Y and Z are variables representing single digits (0 to 9), Alok would like to maximize N while Bhanu would like to minimize it. Towards this end, Alok chooses a single digit number and Bhanu substitutes this for a variable of her choice (X, Y or Z). Alok then chooses the next value and Bhanu, the variable to substitute the value. Finally Alok proposes the value for the remaining variable. Assuming both play to their optimal strategies, the value of N at the end of the game would be

58. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is
37/38 ; 14/19 ; 3/4

59. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

60. A sheet of paper has statements numbered from 1 to 30. For all values of n from 1 to 30, statement n says "At most n of the statements on this sheet are false". Which statements are true and which are false?
All statements are false.
The odd numbered statements are true and the even numbered are false.
The even numbered statements are true and the odd numbered are false.

All statements are true.

61. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

63. The teacher is testing a student's proficiency in arithmetic and poses the following question. 1/3 of a number is 3 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?

65. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?

66. A man is standing in front of a painting of a man, and he tells us the following: Brothers and sisters have I none, but this man's father is my father's son. Who is on the painting?
His son ; He himself; His grandfather; His father

69. A hunter leaves his cabin early in the morning and walks one mile due south. Here he sees a bear and starts chasing it for one mile due east before he is able to shoot the bear. After shooting the bear, he drags it one mile due north back to his cabin where he started that morning. What color is the bear?
White ; Black

69. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

70. One day Rapunzel meets Dwarf and Byte in the Forest of forgetfulness. She knows that Dwarf lies on Mondays, Tuesdays and Wednesdays, and tells the truth on the other days of the week. Byte, on the other hand, lies on Thursdays, Fridays and Saturdays, but tells the truth on the other days of the week. Now they make the following statements to Rapunzel - Dwarf Yesterday was one of those days when I lie. Byte: Yesterday was one of those days when I lie too. What day is it?
Monday; Thursday ;Tuesday; Sunday

71. Rearrange the following letters to make a word and choose the category in which it fits. RAPETEKA
Vegetable; City

72. Ferrari S.p.A. is an Italian sports car manufacturer based in Maranello, Italy. Founded by Enzo Ferrari in 1928 as Scuderia Ferrari, the company sponsored drivers and manufactured race cars before moving into production of street-legal vehicles in 1947 as Ferrari S.p.A.. Throughout its history, the company has been noted for its continued participation in racing, especially in Formula One, where it has enjoyed great success. Rohit once bought a Ferrari. It could go 2 times as fast as Mohit's old Mercedes. If the speed of Mohit's Mercedes is 32 km/hr and the distance travelled by

the Ferrari is 952 km, find the total time taken for Rohit to drive that distance.
14.88 ; 29.75

73. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is

74. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If 1/32 of B's volume is filled after 3 hours, what is the total duration required to fill it completely?
9 hours; 10 hours; 8 hours; 7 hours

75. The difference between the ages of two of my three grandchildren is 3. My eldest grandchild is three times older than the age of my youngest grandchild and my eldest grandchild's age is two years more than the ages of my two youngest grandchildren added together. How old is my eldest grandchild?

79. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?

80. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is
37/38 ; 14/19

81. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one litre every hour in A, it gets filled up like 10, 20, 40, 80, 160 .. in tank B. (At the end of first hour, B has 10 litres, second hour it has 20, and so on). If 1/32 of B's volume is filled after 3 hours, what is the total duration required to fill it completely?
7 hours ; 9 hours; 8 hours; 10 hours

82. Rearrange the following letters to make a word and choose the category in which it fits.
RAPETEKA
Vegetable ; Fruit

83. A hunter leaves his cabin early in the morning and walks one mile due south. Here he sees a bear and starts chasing it for one mile due east before he is able to shoot the bear. After shooting the bear, he drags it one mile due north back to his cabin where he started that morning. What color is the bear?
Black ; Brown ; White

84. A sheet of paper has statements numbered from 1 to 40. For each value of n from 1 to 40, statement n says "At least n of the statements on this sheet are true." Which statements are true and which are false?
The odd numbered statements are true and the even numbered are false.

The first 13 statements are true and the rest are false.
The even numbered statements are true and the odd numbered are false.
The first 26 statements are false and the rest are true.

85. Alok is attending a workshop "How to do more with less" and today's theme is Working with fewer digits . The speakers discuss how a lot of miraculous mathematics can be achieved if mankind (as well as womankind) had only worked with fewer digits.
The problem posed at the end of the workshop is
How many 5 digit numbers can be formed using the digits 1, 2, 3, 4, 5 (but with repetition) that are divisible by 4?
Can you help Alok find the answer?

86. 36 people {a1, a2, ..., a36} meet and shake hands in a circular fashion. In other words, there are totally 36 handshakes involving the pairs, {a1, a2}, {a2, a3}, ..., {a35, a36}, {a36, a1}. Then size of the smallest set of people such that the rest have shaken hands with at least one person in the set is
11

87. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?
500 800 488 900

88. A sheet of paper has statements numbered from 1 to 30. For all values of n from 1 to 30, statement n says "At most n of the statements on this sheet are false". Which statements are true and which are false?
The even numbered statements are true and the odd numbered are false.
The odd numbered statements are true and the even numbered are false.
All statements are true.
All statements are false.

89. Planet fourfi resides in 4-dimensional space and thus the currency used by its residents are 3-dimensional objects. The rupee notes are cubical in shape while their coins are spherical. However the coin minting machinery lays out some stipulations on the size oft he coins.The diameter of the coins should be at least 64mm and not exceed 512mm. Given a coin, the diameter of the next larger coin is at least 50% greater.
The diameter of the coin must always be an integer.You are asked to design a set of coins of different diameters with these requirements and your goal is to design as many coins as possible. How many coins can you design?
8 5 6 9

90. On the planet Oz, there are 8 days in a week- Sunday to Saturday and another day called Oz day. There are 36 hours in a day and each hour has 90 min while each minute has 60 sec. As on earth, the hour hand covers the dial twice every day.
Find the approximate angle between the hands of a clock on Oz when the time is 12:40 am.

91. Given a collection of points P in the plane, a 1-set is a point in P that can be separated from the rest by a line; i.e. the point lies on one side of the line while the

others lie on the other side. The number of 1-sets of P is denoted by n1(P). The maximum value of n1(P) over all configurations P of 10 points in the plane is
9 10 3 5

92. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is:
3/4 1/2 14/19 37/38

96. Anoop managed to draw 7 circles of equal radii with their centres on the diagonal of a square such that the two extreme circles touch two sides of the square and each middle circle touches two circles on either side. Find the ratio of the radius of the circles to the side of the square.
1:(2+ 7√2) 1:(4+ 7√3) 1:(2+ 6√2) (2+ 7√2):1

95. The pace length P is the distance between the rear of two consecutive footprints.
For men, the formula, n/P = 144 gives an approximate relationship between n and P where, n = number of steps per minute and P = pace length in meters. Bernard knows his pace length is 164cm. The formula applies to Bernard's walking. Calculate Bernard's walking speed in kmph.
23.62 236.16 8.78 11.39

96. The teacher is testing a student's proficiency in arithmetic and poses the following question.
1/3 of a number is 3 more than 1/6 of the same number. What is the number?
Can you help the student find the answer?
18 6 21 12

97. 10 suspects are rounded by the police and questioned about a bank robbery. Only one of them is guilty. The suspects are made to stand in a line and each person declares that the person next to him on his right is guilty. The rightmost person is not questioned. Which of the following possibilities are true?
A. All suspects are lying or the leftmost suspect is innocent.
B. All suspects are lying and the leftmost suspect is innocent .
Neither A nor B
B only
A only
Both A and B

98. After the typist writes 12 letters and addresses 12 envelopes, she inserts the letters randomly into the envelopes (1 letter per envelope). What is the probability that exactly 1 letter is inserted in an improper envelope?
11/12; 0; 12/2^12; 1/12

99. A circular dartboard of radius 1 foot is at a distance of 20 feet from you. You throw a dart at it and it hits the dartboard at some point Q in the circle. What is the probability that Q is closer to the center of the circle than the periphery?
0.75; 0.25; 0.5; 1

100. On planet zorba, a solar blast has melted the ice caps on its equator. 8 years after the ice melts, tiny plantoids called echina start growing on the rocks. echina grows in the form of a circle and the relationship between the diameter of this circle and the age of echina is given by the formula
$d = 4 * ;\ d = 4 * \sqrt{(t - 8)}$ for $t \geq 8$
where d represents the diameter in mm and t the number of years since the solar blast.
Jagan recorded the radius of some echina at a particular spot as 8mm. How many years back did the solar blast occur?
24; 12; 8; 16

101. A hare and a tortoise have a race along a circle of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?
5; 37.80; 40; 8

102. A hollow cube of size 5 cm is taken, with a thickness of 1 cm. It is made of smaller cubes of size 1 cm. If 4 faces of the outer surface of the cube are painted, totally how many faces of the smaller cubes remain unpainted?
900; 800; 488; 500

103. A hunter leaves his cabin early in the morning and walks one mile due south. Here he sees a bear and starts chasing it for one mile due east before he is able to shoot the bear. After shooting the bear, he drags it one mile due north back to his cabin where he started that morning. What color is the bear?
Brown; Black; Grey; White

104. The difference between the ages of two of my three grandchildren is 3. My eldest grandchild is three times older than the age of my youngest grandchild and my eldest grandchild's age is two years more than the ages of my two youngest grandchildren added together. How old is my eldest grandchild?
12; 15; 10; 13

105. There are two boxes, one containing 10 red balls and the other containing 10 green balls. You are allowed to move the balls between the boxes so that when you choose a box at random and a ball at random from the chosen box, the probability of getting a red ball is maximized. This maximum probability is
¾; 37/38; 14/19; ½

106. A hare and a tortoise have a race along a circ
le of 100 yards diameter. The tortoise goes in one direction and the hare in the other. The hare starts after the tortoise has covered 1/5 of its distance and that too leisurely. The hare and tortoise meet when the hare has covered only 1/8 of the distance. By what factor should the hare increase its speed so as to tie the race?
8; 37.80; 5; 40