1048

Hi,
Another 24 question for you to solve in 20 minutes. This time we are not sending the answers and the method to solve these question. The same will be sent along with Lesson P1047. Try to solve these questions before we send out P1047.

Q1. In a remote place called Telinagar a measuring unit called Dholi is used. One Dholi is equal to 459 grams. A merchant from nearby area come to Telinagar and declares that he sells his goods at cost price, but he cheats his customers by using 408 grams as one Dholi. What is his gain %.

Q2. In a place called ChandanPur a measuring unit called Keena is used which is equal to 737 grams. A merchant there declares that he sells his goods at cost price but uses a false weight. If he gains 10 % in each transaction what weight in grams does he use as 1 Keena?

Q3. In a remote place called PetrolNagar a measuring unit called Chalka is used, 1 chalka is equal to 23 Palka and 1 palka is equal to 37 Grams. A merchant from DieselNagar comes to PetrolNagar and cheats his customers by using 20 Palkas (Each Palka equals 37 Grams) as equal to 1 Chalka. What is is gain % if he declares that he sell his good a cost price?

Q4. In a place called ChintuVihar a measuring units called Ralle is used. A merchant declares that he sell his goods at cost price but uses a false weight of 620 Grams as 1 Ralle , thereby making a profit of 25 %. How many grams is equal to 1 Ralle ?

Q5. In place called WiseManVihar a measuring unit called Peena is used which is equal to 361 grams. A merchant from FoolishManVihar comes to WiseManVihar and uses a wrong weight of 380 Grams as 1 Peena. The merchant sells his goods at cost price thinking he will gain by using the false weight. Find is Loss %.

Q6. In a place called MurakhVihar a measuring unit called Hallu is used which is equal to 756 grams. A merchant there sells his goods at cost price and uses a wrong weight. If he loses 12.5 % in each transaction, what weight does he use as 1 Hallu?

Q7. In a remote place a measuring unit called Gurrah is used, 1 Gurrah is equal to 15 Hallya and 1 Hallya is equal to 81 Grams. A merchant by mistake uses 20 Hallaya as equal to 1 Gurrah. What is his Loss % if he sell his good a cost price?

Q8. In a remote place a measuring units called Mudin is used. A merchant sells his goods at cost price and uses a wrong weight of 1,880 Grams as 1 Mudin , thereby losing 2.5 % . How many grams is equal to 1 Mudin ?

Q9. In a remote place called Malinagar a measuring unit called Mathin is used. One Mathin is equal to 594 grams. A merchant from nearby area come to Malinagar and declares that he sells his goods at cost price, but he cheats his customers by using 550 grams as one Mathin. What is his gain %.

Q10. In a place called MadanPur a measuring unit called Kaful is used which is equal to 702 grams. A merchant there declares that he sells his goods at cost price but uses a false weight. If he gains 12.5 % in each transaction what weight in grams does he use as 1 Kaful?

Q11. In a remote place called TrainNagar a measuring unit called Guni is used, 1 Guni is equal to 27 Gindi and 1 Gindi is equal to 33 Grams. A merchant from PlaneNagar comes to TrainNagar and cheats his customers by using 25 Gindis (Each Gindi of 33 Grams) as equal to 1 Guni. What is his gain % if he declares that he sell his good a cost price?

Q12. In a place called BantuVihar a measuring units called Fanu is used. A merchant declares that he sell his goods at cost price but uses a false weight of 1040 Grams as 1 Fanu , thereby making a profit of 5 %. How many grams is equal to 1 Fanu ?

Q13. In place called HoshiyarNagar a measuring unit called

Badi is used which is equal to 1221 grams. A merchant from SustNagar comes to HoshiyarNagar and uses a wrong weight of 1,320 Grams as 1 Badi. The merchant sells his goods at cost price thinking he will gain by using the false weight. Find is Loss %.

Q14. In a place called LateVihar a measuring unit called Sattu is used which is equal to 638 grams. A merchant there sells his goods at cost price and uses a wrong weight. If he loses 12 % in each transaction, what weight in grams does he use as 1 Sattu?

Q15. In a remote place a measuring unit called Kandalee is used, 1 Kandalee is equal to 49 Dharud and 1 Dharud is equal to 16 Grams. A merchant by mistake uses 50 Dharud (Each Dharud equals 16 grams) as equal to 1 Kandalee. What is is Loss % if he sell his good at cost price?

Q16. In a remote place, a measuring units called Channi is used. A merchant sells his goods at cost price and uses a wrong weight of 850 Grams as 1 Channi , thereby losing 4 % . How many grams is equal to 1 Channi ?

Q17. A merchant declares that he sells his goods at cost price but at the same time he uses 900 grams instead of 1000 grams. What is his gain % if his cost price was Rs 55.55 per Kg.

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http://groups.yahoo.com/group/urpercentile/database

MATCH THE WORDS IN SET A WITH THEIR MEANINGS IN SET B

SET A====> Q18. Spartan   Q19. Sycophant,   Q20. Fallible, Q21.Tangible , Q22. Clamorous, Q23. Preclude, Q24. Surfeit.

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SET B
A. Liable to err.

B. Exceptionally brave
C. Overindulgence or Excessive in quantity.
D. To exceed or surpass quality or achievement.
E. Motion or gesture accompanying speech.
F. Eat too much though one is not hungry.
G. Person who flatters a powerful person or boss.
H. To get nervous due to lack of experience.
I. To steal somebody's money
J. Perceptible by touch.
K. Demanding immediate attention.
L. To make something impossible.

1052

Hi,
Another 24 questions for you to solve in 20 minutes. The answers and the method to solve these questions are given at the end.

For this Lesson assume that AB represent a two digit number with B at units place and A at hundreds place, similarly ABC represent a number with C at units place, B at tens place and A at hundreds place and so on.

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Q1 and Q2 are based on following information:
SQUARE (AA)= BCDA, None of them is equal to 0.

Q1. Which one of A,B,C and D is the greatest ?
Q2. Which one of the following is not true :
a) B+C+D = A+A
b) Square(A)= CA
c) Square (C)= B+D = C+A
d) B+C=D+A

Q3 and Q4 are based on following information.
SQUARE (AB)= CCDF

B=A+1
D<7

Q3. Which one of the following is not true :
a) Square(A)= D+F-C-C
b) Square (B)=CF (CF is a number with F in units place and C in tens place)
c) A*B= C+D+F
d) B-A= D

Q4. Which one of the following is true :
a) A+B=D+F
b) A+B=D-F
c) A+B=C+F
d) A+B=C-F

Q5 and Q6 are based on following information
SQUARE(AB)= CDEC where B=A+2
Q5. Which one of A,B,C,D and E is the greatest ?
Q6. What is the value of A*B

Q7 and Q8 are based on following information .
CUBE(AB)= ACBP
Q7. What is C+P+B ?
Q8. What is SQUARE(AB)

Q9 and Q10 are based on following information :
A multiplication of number MX and AM where M,X,A,W,U,W,T take different value from 1 to 9 is represented as follows :

```
  MX
  AM
------
    U6
WXE0
---------
WM76
```

Q9. What is the value of Square (MX)
Q10. What is the value of Square(AM)

Q11 and Q12 are based on following information :
All the variables T,U,W,P,Q have unique value between 0 to 9 other than 1,6 and 9.
Given that U+Q=W
and

```
  TU6W
+TWPT
----------
=9QW1
```

Q11. Find the value of Square(W)- Square(T) ?
Q12. Find the digits between 0 to 9 that are not used in the above calculation ?

Q13 and Q14 are based on following information :
If AB*BA = PBAP,   where A=B+1.
Q13. Find the Value of P ?
Q14. Find the Value of A+B+P

Q15 and Q16 are based on following information representing a multiplication of two numbers represented by SQ and 3A , where S,Q,A,P,W,C hold unique value between 0 to 9. It is given S is a even number.

```
  SQ
  3A
-------
  QPW
PQ6W
-------
PSCW
```

Q15. What is the value of the result ?
Q16 What is the value of Square(SQ) ?

Q17 . Multiplication of two numbers AAA and BBB is represented as follows. It is given that A and B are unique numbers between

1 to 9 and the result is an even number.

```
 AAA
 BBB
----------
  BBB
 BBBP
BBBPP
----------
BTQTB
```

What is the value of Square(AAA) ?

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MATCH THE WORDS IN SET A WITH THEIR MEANINGS IN SET B

SET A: 18. Temerity 19. Unwonted 20. Bountiful 21. Elucidate ,
22. Freebooter, 23. Ineluctable, 24. Insouciant

SET B:
A. To explain or clarify something.
B. Too confident in a manner to offence someone.
C. Lack of ability to repay debts.
D. Unaccustomed.
E. Path taken by a projectile.
F. In plenty supply, giving generously.
G. To regret.
H. Unable to be escaped from or avoided.
I. Clearly visible.
J. Friendly, Good nature.
K. A pirate.
L. Lack of anxiety, concern or care. .

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ANSWERS :
Ans 1 and 2
As last digit of result is same as the number, the last digit has to

be either 5 or 6. So either the number is 55 or it is 66.
SQUARE (55)= 3025
SQUARE (66)=4356
as none of the number is 0, AA=66
and BCDA=4356

So A is the greatest (Ans1)
Checking the four equations
a) B+C+D = A+A or 4+3+5= 12. So this is true.
b) Sq(A)= 26=CA. So this is true.
c) Sq(C)=9=B+D=C+A. True
d) B+C= 7 which is not equal to D+A
hence statement d is not true. (Ans 2)

Ans 3 and Ans 4 As the result is a 4 digit number, AB > 31 and less than 99.
As B= A+1, the only options left are 34,45,56,67,78 and 89.
Since the last digit of the number and the result is not same, we need not check 45 and 56 .
34*34=1156
67*67=4489
78*78=6084
89*89=7921
As the digit in hundreds and thousands place is equal and the digit in tens place is less than 7 there is only one option left. 34*34=1156

Checking the 4 equation of Q3.
a) 3*3=6+5-1-1. True
b) 4*4= 16. True
c) 3*4=1+5+6 . True
d) 4-3=5 is False. Hence the Answer for Q3 is d.

Checking the 4 equations of Q4.
a) 3+4= 5+6 . False
b) 3+4=5-6. False
c) 3+4=1+6 . True. So Answer for Q4 is c.

Ans 5 and Ans 6:
As the result is a 4 digit number, AB should be greater than 31

and less than 99
As B=A+2, the only option left are 35,46,57,68,79
Since the last digit of the number and the result is not same so we need not check 35 and 46.
57*57=3249
68*68=4624
79*79=6241
As we can see from above the last and first digit is same only in case of 68*68=4624.
So B is the greatest (Ans 5)
and A*B= 48 (Answer 6)

Ans 7 and 8.
As the result is a four digit number AB has to be between 10 and 21, as cube of any number less than 9 is a 3 digit number and Cube(22)> 10,000.
Now since the last number of the number and the result is not same it is only possible if B is 2,3, 7 or 8.
So we need to check for 12,13,17 and 18 only.

12*12*12= 1,728
13*13*13= 2,197
17*17*17= 4,913
18*18*18= 5,832

we see only 12*12*12= 1,728 fits into the given condition.
so A=1, B=2, C=7 and P=8.
C+P+B= 7+8+2= 17. (Ans 7)
SQUARE(AB) = 12*12=144 (Ans 8)

Ans 9 and 10
M cannot be more than 3 as when MX is multiplied by M the results in a two digit number. So M can be either 1,2 or 3.
Now from the result line we can say that X+1= M.
This is because the maximum carry forward when two digits (U and E) are added cannot be more than 1 (9+9=18).
So now we have M= 1,2 or 3 and X=0,1 or 2.
It is clear that when X is multiplied by M is 6.
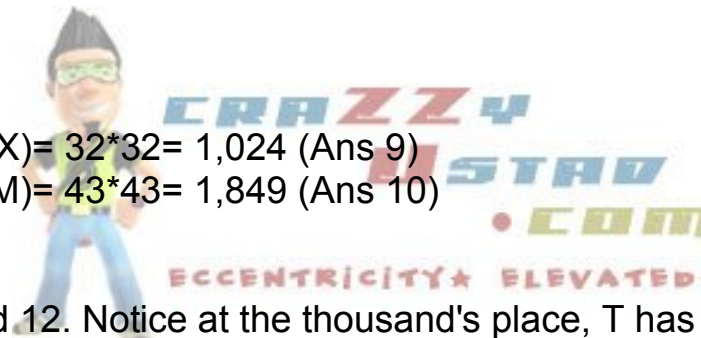So M has to be 3 and X has to be 2.
So now we get as follows :

```
  32
  A3
--------
      96
WXE0
--------
WM76
```

E has to be 8 to get 7 at the result line under E.
So if E = 8, A=4.

So we get the result as :
```
  32
  43
-----
     96
1280
-----
1376
```
Square (MX)= 32*32= 1,024 (Ans 9)
Square (AM)= 43*43= 1,849 (Ans 10)

Ans 11 and 12. Notice at the thousand's place, T has to be 4 {(9-1)/2} as it is clear that there is a carryover when U and W are added. As if there is no carryover the result cannot be 9 it will be some even digit (T+T).

So we get the equation as :
```
  4U6W
+4WP4
-----
=9QW1
```

Analysis of the units place : W has to be 7 so that the result is 1.
Putting Value of W in all the place we get as follows :

```
  4U67
+47P4
-----
```

=9Q71

So P has to be 0. Now since all the variable take unique value between 0 to 9. The only values left for U and Q are 3,5,8,2.
As it is given that U+Q= W=7
we get U = 5 and Q=2.

So the answer is
  4567
+4704

=9271
Square(W)- Square(T)= 49-16= 33 (Ans 11)
3 and 8 are not used in above calculations (Ans 12)

Ans 13 and 14 : As 32*23 and below that will yield a 3 digit number, the options we are left with are 43 & 34, 54 & 45, 65 & 56, 76 & 67, 87 & 78 and 98 and 89.
We need not actually multiply all the digits above, as we know the first and the last digit of the result is same. So 54 & 45 and 65 & 56 are ruled out as the last digit will be 0. 98 & 89 is ruled out as the last digit of the result is 2 and certainly the product of the two is not in range of 2000 to 3000. Same applies for 43 & 34 and 76 & 67 which is also ruled out.
checking for 87 *78 = 6786.
So P = 6 (Ans 13)
A+B+P= 8+7+6= 21 (Ans 14)

Ans 15 and 16. Clearly W is 0. If W is 0 either both Q & A are O or one of them is 5 and the other one is a even number. Both Q and A cannot be 0 as W is 0 and it is given that each of them hold a unique value.
Now in the row consisting PQ6W, the "6" implies that 3*Q= 6, as it cannot be 16 or 26 or more. So Q is 2.
From the result line we get Q+Q= S. or 2+2 + Carry forward = S. The maximum carry forward when two digits (P+6) are added can be 1.
Since S is a even number (Given) we can say that there is no carry forward and S=4.

So we get the answer as :
42
35

  210
1260

1470

So the result is 1,470 (Ans 15).
and Square of SQ= 42*42= 1,764 (Ans 16).

Ans 17. Either AAA or BBB is equal to 111. As the result is even
Number, B can be 2,4,6 or 8 but not 1. (Note it cannot be 0 as
the range is between 1 to 9).   Clearly AAA= 111.
Square of (AAA) = 111*111= 12321

Ans 18= B, Ans 19= D, Ans 20= F, Ans 21= A, Ans 22= K, Ans
23= H, Ans 24= L
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1049

Hi,
Another 22 questions for you to solve in 20 minutes. The
answers and method to solve these problems will be sent along
with Lesson P1050. In one of the questions below, the Data
provided is not sufficient, try to identify the question.

Meanwhile, kindly visit the Database section to enter the details
of Book /Magazines/Study material etc you are referring to and to
see what other members of this group are referring for their
preparation.

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Q1. A's age is two-third the of age of B. Two years back C was
twice as old as A and the total age of the three was 28 years.
What will the total age of the three after 5 years.

Q2. 3 years back C's age was two times the age of A. Six years from now B's age will be 20 % more than A's age. The total age of the three is 36 at present. What is the age of A,B and C?

Q3. B's age is half the age of A and C combined. 8 years from now A's age will be 75% of C's age and their total age will be 84. Who is the eldest one and by how many years is he old to the youngest one?

Q4. B's age is one third of the total age of A,B and C. 10 years from now B's age will be 20% more than A's Age and the total age of the three will be 90 years. Who is the eldest one and by how many years is he old to the youngest one?

Q5. 4 years back A was 75% of the age of C. 6 years from now A will be 87.5% of B's age. The total age of the three at present is 76. How many years old are A,B and C?

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Q6. 4 year back B's age was 5 years more than half the combined age of A and C. 8 years from now A's age will be 4 years less than the half the combined age of B and C and their total age will be 104. What is A's age?

Q7. 5 years back the combined age of A,B and C was equal to an square on integer (K) plus half of that integer (K/2). 2 years from now the combined age of the three will be square of (K+1) plus K. What is the sum of the current age of A,B and C.

Q8. 6 years back, the sum of the age of A,B,C was the reverse of the number which is equal to the sum of their present age. Their combined age of the three is less than 100. The combined age of the three now and 6 years back was an even number and the combined age of any two is more than 50. What is their combined age now.

Q9. 7 years back B's age was 125% of C's age. B's current age is 10% less than A's age. 7 years from now the total age will be 101. What is A's Age ?

Q10. C's age is 75% of B's age. 8 years back A's age was 120% of B's age. The combined age of the three 5 years from now will be 96. Who is the eldest one and by how many years is he old to the youngest one?

Q11. 6 years back the ratio of the age of A,B and C was 3:2:1. Now the ratio is 7:5:3. What will be the ratio 16 years from now.

Q12. 7 years back B was twice the age of C. 8 years from now, A's age will be twice the age of B's age 7 year back. Their combined age at present is 97. Who is the eldest one and by how many years is he old to the youngest one?

Q13. The ratio of age of A,B and C now is 13:10:6. Nine years from now the ratio will be 16:13:9. What was the combined age of the three 5 years back.

Q14. 6 years back the combined total age of A,B and C was equal to square of an integer K. The sum of their current age is less than 100 and is equal to a number with both units and tens digit equal to K. If A is 16 years older than B and 29 years older to C what are their ages.

Q15. 6 years back A's age was one year more than half the combined age of A,B and C. 8 years from now A's age will be 6 years less than half the combined age of A,B and C. A's current age is 2 less than half the combined age of the three. What is A's Age.

Q16. The ratio of age of A,B and C is 12:17:11. 8 year back B's age was 2 less than half the combined age of the three. What is A's age now.

Q17. A's age is one year more than the average age of A,B,C. C's age is 2 less than the average age of A,B,C. 11 years back the ratio of their age was 5:5:4. What is age of C.

MATCH THE WORDS IN SET A WITH THEIR MEANINGS IN SET B

SET A :
18. Valorous 19. Tepid,   20. Philately, 21. Imbrue, 22. Fishmonger

SET B:
A. Aspersion .
B. Courageous
C. One who sells Fish.
D. Lukewarm
E. Someone who does fishy activities.
F. To stain something with liquid especially with blood.
G. Robust
H. Person appealing not to reasons.
I. Boiling
J. To pretend, feign.
K. The study and collection of stamps.

THEORY FOR LESSON 50:
1. 1st January 0001 and every 400 years after that is a Monday.
That is 1st Jan of year 0001, 401, 801,1201,1601,2001 is
Monday.
2. An year divisible by 4 is a leap year, but century years are not
leap years unless they are divisible by 400. So 2000 is a Leap
Year but 1900, 1800, 1700 are not not leap year.
3. Odd days is the remainder obtained when the number of days
is divided by 7. Example: If it is Sunday today , after 50 days it
will
be: 50/7 gives remained 1. Add 1 day to Sunday to get answer
as Monday.
4. A non leap year has 1 odd day and a leap year has 2 odd
days.
5. A normal Century has 5 odd days and leap century has 6 odd
days.
6. January, March, May, July, Aug, Oct and December have 3 odd
days each. April, June, Sept and Nov have 2 odd days each. Feb
has 0 odd days if it is not a leap year and has 1 odd day if it is a
leap year.
6. Number of leap years between any two given years is equal to
the quotient when the difference between the two given years is
divided by 4. Example Number of Leap years between 1947 to
1901 = 1947-1901= 46. 46 /4 = 11.5. So number of leap years=

11.

Q1. What will be the day on 15 Aug 2017 ?

Q2. What will be the day on 26 Jan 2010 ?

Q3. What will be the day on 1st Oct 2020?

Q4. What was the day on 15 Aug 1947 ?

Q5. What was the day on 26 Jan 1950 ?

Q6. What was the day on 30 Jan 1948 ?

Q7. What was the the day on 11 Sept 2001 ?

Q8. What was the day on 20 July 1969 ?

Q9. What will be the day on 15th Dec 2014 ?

Q10. What will be the day on 21 Sept 2024 ?

Q11. What will be the day on 24 Oct 2035 ?

Q12. What was the day on 31 Dec 1999 ?

Q13. If 21st April of a certain year was Monday what would be the day on 21st Sept of the same year ?

Q14. If 27th March of a certain year is Saturday what would be the day on 25 November of the same year ?

Q15. If 5th March of a leap year is Saturday what would be the day on 25 March of the next year ?

Q16. If 12th March of a Leap year is Friday , what would be the day on 26th December of the same year ?

Q17 . If 29th Feb of a year falls on Saturday what would be the day on 31st Dec of that year ?

Q18. 17th March of a leap year falls on Sunday (2024) , what would be the day on 28th March of the next year?

Q19. If 22nd April of certain year (2022) falls on Friday what would be the day on 17th Feb next year?

1051

Hi,
Another 22 question for you to solve in 20 minutes. The answers and the method to solve the problems are given at the end of the message. Happy solving.

Q1 to Q17 , find out :
1) If the question can be answered by using one of the statements alone, but cannot be answered using the other statement alone.
2) If the question can be answered by using either statement alone.
3) If the question can be answered by using both statements together, but cannot be answered using either statement alone.
4) If the question cannot be answered even by using both statements together.

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Q1. In a arithmetic series , what is the second term ?
a) Sum of the first five terms of the series is equal to the 21st term of the series.
b) Sum of first 7 terms of the series is equal to 37th Term of the series.

Q2. In a arithmetic series, what is the third term ?
a) The sum of 11th Term and 10th term of the series is 48.
b) The sum of the 15th and 6th term of the series is also 48.

Q3. In a arithmetic series what is the second term ?
a) The sum of 6th Term and 7th term of the series is 32.
b) The sum of the 4th and 5th term of the series is 24.

Q4. What is the Geometric mean of two positive numbers A and B.
a) The geometric mean is greater than the arithmetic mean of the A and B and less than the harmonic mean of A and B.
b) Arithmetic mean is equal to 25 , and Harmonic mean is equal to 9.

Q5. What is the area of Triangle ?
a) One side is equal to 3 Cms and second side is equal to 4 Cms.
b) One side is 3 cms, the second one is 4 cms and the third side is less than 6 Cms but greater than 4 Cms .

Q6. What is the cost of 24 apples, 28 mango and 20 bananas ?
a) Cost of 4 apples , 3 mangoes and 2 bananas is Rs. 59.
b) Cost of 2 apples, 4 mangoes and 3 bananas is Rs. 65.

Q7. How long will the ration for the camp last ?
a) The ration is enough for 20 men and 10 boys for 10 days.
b) There are 5 men and 5 boys in the camp.

Q8. How long will the ration for a camp last ?
a) The ration is enough for 10 days for 36 men or 48 boys.
b) There are 6 men and 4 boys in the camp.

Q9. How long will the ration for the camp last ?
a) The ration is enough for 36 men and 48 boys for 10 days.
b) There are 9 men and 12 boys in the camp.

Q10. Is X divisible by 9?
a) X is divisible by 3.
b) X is divisible by 15.

Q11. What is the average speed of the car ?
a) The car covered 25% of distance at 45 Km per Hour.
b) The car covered the remaining 75% of distance at 55 Km / Hour.

Q12. What is the average of marks obtained by the group of students?
a) The number of girls in the group is 150% of the number of boys.
b) The average marks of the boys is 77 and the average marks of the girls is 88.

Q13. How many students are there in the school?
a) Class X have 27 boys which is equal to 15 % of the number of

boys in the school.
b) 55 % of students of the school are girls.

Q14. Is the triangle a Right angle triangle ?
a) The square of the shortest side is less than the product of the sum and the difference of the longest and the third side.
b) Two angles of the triangle are equal and the sum of the equal angles is greater to the third angle.

Q15. What is the distance between D to K ?
Statement 1 : At a speed of 60 Km Per Hour, it takes 20 Hours from D to M.
Statement 2 : At speed of 70 Km per, it takes 18 hours from M to K.

Q16 What is the area of the rectangle ?
Statement 1: When Length is increased by 20% and breadth by 25% the new perimeter of the rectangle is 108 units which is 20 more than the original one.
Statement 2 : When the length is increased by 25% and breadth by 50% the new area is 900 sq units.

Q17. What is the radius of a circle inscribed in the square ABCD.
Statement 1 : The area and perimeter of the square ABCD when measured in cms are numerically equal.
Statement 2: The diagonal of the square when measured in meters is SQRT(2) times more than the side of the square.
SQRT = Square root.

http://groups.yahoo.com/group/urpercentile/

MATCH THE WORDS IN SET A WITH THEIR MEANINGS IN SET B

SET A: 18. Rescind   19. Parable,   20. Furtive, 21. Conjecture, 22. Extenuate

SET B:
A. To bring together .

B. To make a mistake seem less serious than it first appeared.
C. Gradually falling into disuse.
D. To remove the authority and validity of something.
E. A Short, simple story teaching a moral.
F. Small and minute
G. To regret .
H. Stealthy.
I. Happening in a particular city.
J. A decision or judgement based on incomplete information.
K. Being full of life and high sprits.

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ANSWERS
Ans 1. Cannot be determined by using both statement.
Sn= n(2a +(n-1)d) / 2
Tn= a + (n-1)d
STATEMENT 1 : S5 = 5(2a+4d)/2 or 5a +10d
T21= a+20d
so we get 5a+10d=a+20d or 4a-10d=0 or 2a-5d=0
STATEMENT 2: 7a+21d=a+36d or 6a-15d=0 or 2a-5d=0
From both statement we have the same equation, 2 variables
and one equation, hence cannot be solved.

Ans2. Statement 1 :T11+T10 = a+10d +a+9d or 2a+19d=48
Statement 2 : T15 +T6 = a+14d + a+5d = 2a+19d = 48
So both the statement give the same information , we have two
variable and one equation ,so cannot be solved.

Ans 3. Statement 1 : a+5d +a+6d =32 or 2a +11d =32
Statement 2 : a+ 3d +a+4d = 24 or 2a+7d = 24
Solving 1 and two we get a= 5 and d = 2
so the second term will be a+d= 7 . Hence the problem can be
solved by using both the statement.

Ans 4. Statement 1 is true for all given set of two positive
numbers.
Statement 2: A.M*HM=GM^2 so we can get the G.M from this
number.
Hence the question can be solved by using statement 2 alone.

Ans 5. Statement 1: is not sufficient to get the Area of Triangle. Statement 2 : Also is not sufficient to get the Area of Triangle. Combining two statement also we don't get the area of triangle. Many people for sake of convenience would assume that the third side is 5 , and thus assume that it is a right angle triangle. But this is not the case here. There are infinity number of triangle that can be formed which satisfy both the statement.

Ans 6.Statement 1 : Data is not sufficient to get an answer. Statement 2 : Data is not sufficient to get an answer. At first glance it would appear that there are only two equations provided and three variables are to be found, so both statement together will not be sufficient, but when you take a closer look you will find : When we add the two statement we get 6 apples + 7 mangoes + 5 bananas cost Rs 124. or 6A+7M+5B= 124. We need to find cost of 24A+28M+20B which is equal to 4*(6A+ 7M+5B) so the cost will be 4*124= 496. Hence the question may be solved by using both the statements.

Ans 7. The answer cannot be found as there is no data given about the ratio in which a man and a boy consume ration.

Ans 8. When we use both the statement we can solve the problem , The ration is enough for 36 OR 48 boys for 10 days. That means each man consumes 1/360 of ration per day and each boy consume 1/480 of ration per day. so 6 men will consume 6/360 ration per day and 4 boys will consume 4/480 ration per day. So in 1 day 6/360+ 4/480 ration will be consumed or 1/40 of the ration will be consumed. Or the ration will last for 40 days . Hence the problem can be solved by using both statement.

Ans 9. At first glance it would appear that the answer cannot be found as the ratio in which a man and a boy eat is not given. But when you look at the two statement closely, it will be possible to get the answer. You may view the question as follows : Consider a group of 9

men and 12 boys as a team. Then the question can be read as , the food will last for 10 days for 4 team. So if there is only one team the food will last for 40 days.

Ans 10. Both statement individually or when combined together cannot give any confirmed answer.
X may be be or not divisible by 9.
Take for example 60 and 45. Both satisfy the two condition, but one is divisible by 9 other one is not.

Ans 11. Let the total distance be 100X
Time taken for first 25x = 25X/45
Time taken to cover remaining 75X = 75X/55
Total time taken = 25X/45 + 75X/55 =
LCM of 45 and 55 = 495
= 275X+675X/ 495 = 950X/495
So average speed = 100X/ (950X/495) = 49500/950 Km per hour.
Hence the question can be solved by using both the statements together.

Ans 12. The problem can be solved by using both the statements.
Let the number of boys be X , so number of girls = 1.5X.
Total number of students= X+1.5X= 2.5X
Total marks scored by boys = 77X
Total marks scored by girls = 1.5*88*X= 132X
Total marks scored by the group = 209X
Average marks of the group = 209X/2.5X = 209/2.5
Hence combining the two statements the question can be solved.

Ans 13. Combining the two statement we get as follows :
Statement 1 : 15 % of boys in school= 27
so total number of boys = 27*100/15= 180
Statement 2 : 55% of students are girls so 45% of them are boys.
now 45% of total strength = 180
So 100 % = 180*100/45= 400
Hence combining the two statement we can get the total strength

of the school.

Ans 14. We can know the answer from both the statement independently.
Statement 1 : Let the sides be X,Y and Z with X as shortest side and Y as longest side.
X^2< (Y-Z)(Y+Z)
or X^2< Y^2-Z^2
or Y^2 > X^2+Z^2
If it is a Right angle triangle the square of the Hypotenuse (The Longest side) should be equal to the sum of the remaining two side. So we can say that the given triangle is not a right angle triangle.
Statement 2: In a right angle triangle if two angles are equal they have to be 45 degrees each and the sum of the equal angles has to be 90. So we can say that the given triangle is not a right angle triangle.

Ans 15. We cannot find the answer using both the statement as we cannot assume that A, B and C are in a same line. If you are still not convinced, than consider D stands for Delhi, M stands for Mumbai and K stands for Kolkata.

Ans. 16 : From both statement we can get the area of rectangle independently.
Statement 1 : 2(120L/100+ 125B/100)= 108
and 2(L+B)=108-20 or 2(L+B)=88.
2 equations and two variable, hence can solve the equation and get the area.
Statement 2 : (125L/100)(150B/100)=900
so L.B= (900*100*100)/ (125*150)=480.
Hence the question can be solved independently by any of the two statements.

Ans 17.   Statement 1 : The area and perimeter of square can be numerically equal only in each side is 4 cms each. 4*side=4*4. Once you know the side of the square the radius of the circle will be half the size of the side.
Statement 2 : Diagonal of every square is SQRT(2) times of the side of the square, so nothing may be inferred from this

statement.

Ans 18= D, Ans19= E, Ans 20= H, Ans21= J, Ans 22= B.

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THE QUESTIONS :

Q1. The difference in the sum of the first 12 terms and the first 5
terms of an  Arithmetic progression  is 546. The sum of first 17
terms of the series is 1,326. What is the 2nd term of the series ?

Q2. The difference in the 3rd and the 5th term of a Arithmetic
progression is 8. The sum of the first 23 terms of the series is
1,587. What is the first term of the series ?

Q3. How many terms of the series with third term as 35 and 6th
term as 53 will be needed to make the sum of the series as
1,207?

Q4. The sum of the first four terms  of a Arithmetic progression is
1 more than the 17th term of the series. The sum of the first 17
terms of series is 1,547. Find  the third term of the series ?

Q5. The sum of the first 5 terms of a Arithmetic progression is
245 which is 145 less than ten times second term. Find the sum
of the first 12 terms ?

Q6.  The sum of the first five terms of a Arithmetic progression is
195 and the sum of the 6th and 7th term is 1. Find the sum of the
first 17 terms.

Q7. The sum of the 7th and 8th term of a Arithmetic progression
is 3 and the sum of the 4th and 5th term of the series is 93. Find
the sum of the first 5 terms.

Q8. The sum of the first 8 terms of a Arithmetic progression is 56
and the 4th term is 1. Find the 8th term of the series.

Q9. In a geometric progression series the 4th term is 9 times the
second term and the sum of first five terms is 242. Find the sum
of the first 8 terms of the series ? Given that rate of increase is
greater than 1.

Q10. The sum of the third and 4th term of  a geometric
progression series is 150 and the sum of the 4th and 5th term of
the series is 30. What is the second term of the series ?

Q11. Find the sixth term of a geometric series with  first term as
243 and sum of the series to infinity terms is 364.5. Given that
rate of increase is less than 1.
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Q12. Find the sum of the squares of numbers from 11 to 30 ?

Q13. Find the sum of the cubes of number from 11 to 25 ?

Q14. Find the sum of the squares and the cubes of numbers from 5 to 10 ?

Q15. A harmonic series has second term as 1/4 and 4th term as 1/8. Find the sum of the first four terms of the series ?

Q16. Find the sum of the numbers from 101 to 200 ?

Q17. Find the sum of even numbers from 1 to 200.

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MATCH THE WORDS IN SET A WITH THEIR MEANINGS IN SET B

SET A :
18. Attenuate 19. inscrutable,   20. expurgate, 21. complacent, 22. non sequitur

SET B:
A. To designate as a candidate for any office.
B. Courageous
C. A conclusion that does not follow the facts stated
D. Difficult to understand.
E. In the present time.
F. Self-satisfied or eager to please.
G. Robust
H. Person appealing not to reasons.
I. Boiling.
J. Make thin, to weaken.
K. Remove offensive parts of a book or passage.

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ANSWERS :

FORMULAS USED:

ARITHMETIC SERIES:
Term N is denoted as Tn which is equal to a + nd, where a is the first term and d is the difference between two terms.
Sum of n terms is denoted as Sn which is equal to (n/2)[2a+ (n-1)d]

GEOMETRIC SERIES :
nth term is denoted as Tn which is equal to ar^(n-1)
Sum is denoted as Sn= a[(1-r^n)/ (1-r)] where r<1
Sn= a[(r^n-1)/ (r-1)] where r>1
Sum of infinite terms with |r|<1 is a/(1-r)
where a is the first term and r is ratio.

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Ans 1. S12-S5= 12*( 2a+ 11d) /2 - 5*(2a+4d)/2= 546
or 12a+66d-5a-10d=546
or 7a+56d=546 ...i
S17= 17(2a+16d)/2= 1,326
or 17a+ 136d=1,326 or a+ 8d=78...ii
Solving i and ii we get a= 22 and d= 7.
so second term = a+d= 29

Ans 2. T5-T3= a+4d-a-2d=8 or 2d=8 so d=4.
S23= 23(2a+22d)/2=1,587 or 23a+253d=1,587 or a+11d= 69
putting the value of d we get a+11*4=69  so a = 25.
So the first term is 25.

Ans 3. T3= a+2d=35...i
T6= a+5d=53....ii
solving i and ii we get a=23 and d=6
Let n terms be required to get total 1,207
now 1,207=n(46+(n-1)6)/2
or 2,414=n(46+6n-6)
or 2414=n(40+6n)
6n^2+40n-2414=0
3n^2+20n-1207=0
3n^2-51n+71n-1207=0
3n(n-17) +71(n-17)=0
or (3n+71)(n-17)=0
So n= 17 as it cannot be a fraction.

Ans 4. S4= 4(2a+3d)/2= 4a+6d.
T17= a+16d
now we have S4=T17+1
or 4a+6d=a+16d+1
or 3a-10d=1....i
S17= 17(2a+16d)/2= 1,547
os 17a+136d =1,547.....ii
Solving i and ii we get a= 27 , d= 8.
So the third term = a+2d= 27+16= 43

Ans 5 S5=5(2a+4d)/2=245
or 5a+10d=245
or a+2d= 49....i
T2= a+d
now we have S5= 10(a+d)-145
so 245=10a+10d-145
or 390=10a+10d
or a+d=39....ii
solving i and ii we get a =29 and d=10.
so S12= 12(2*29+ 11*10)/2
= 6(58+110)= 1,008

Ans 6. S5= 5(2a+4d)/2=195
or 5a+10d=195
or a+2d=39....i
T6+T7= a+5d+a+6d=1
or 2a+11d=1.....ii
solving 1 and ii we get a= 61 , d =-11
So S17= 17(61*2+16*(-11))/2
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= 17(61-88) = -459

Ans 7. T7+T8= a+6d+a+7d=3
or 2a+13d=3....i
T4+T5= a+3d+a+4d=93
or 2a+7d=93....ii
Solving i and ii we get a= 99 and d= -15
So S5= 5(2*99 + (-15*4)/2
= 5(99-30)= 345


Ans 8. 8th term is 49.


Ans 9. T4= a.r^3
T2= a.r
we have T4= 9*T2
or a.r^3=9.a.r
so r^2= 9 . r = 3  as rate of increase is greater than 1.
Sn= a[ (1-r^n)/ (1-r) ] where r<1
Sn= a[ (r^n-1)/ (r-1) ] where r>1
S5= a[ (3^5-1)/ (2)]
or a[242/2]=242
or a=2
S8= 2[(3^8-1)/(2)]=  6560


Ans 10. T3= ar^2, T4= ar^3
or ar^2+ar^3=150
or ar^2(1+r)= 150....i
T4= ar^3, T5= ar^4
ar^3+ar^4=30
or ar^3(1+r)=30....ii
dividing ii by 1 we get , r=1/5
Put the value of r in i we get a(1/25)(1+1/5)= 150
or a= 150*25*5/6= 3125
So the second term will be a*r= 3125/5= 625


Ans 11  S(infinity)= a/ (1-r) when r<1
or 364.5 = 243/ (1-r)
or 364.5-364.5r= 243
or 121.5=364.5r
or r= 121.5/364.5
or r= 1/3
T6 = a.r^5 = 243*(1/3)^5= 1


Ans 12.  Sum of square of first n numbers is given by formula n*
(n+1)*(2n+1)/6
Sum of square of 11 to 30 = sum of square of 1 to 30 - sum of
square of 1 to 10.
Putting n =30 we get sum as 30*31*61/6= 9455
Putting n =10 we get the sum = 10*11*21/6= 385
So the required sum = 9455-385=9070


Ans 13. Sum of cubes of first n numbers is given by [n*(n+1)/2]^2
sum of cubes of 11 to 25 = sum of cubes of 1 to 25 - sum of
cubes of 1 to 10.
Putting n=25 we get sum = [25*26/2]^2 =105625
Putting n= 10 we get [10*11/2]^2= 3025
Required sum = 105625-3025= 102600
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Ans 14. Sum of squares from 5 to 10= [(10*11*21)/6] - [(4*5*9)/6]= 385-30= 355.
Sum of cubes from 5 to 10 = 3025- 100= 2925
Required sum = 2925+355=3280

Ans 15. The reciprocal of Harmonic series isalways in arithmetic series.
So taking reciprocals of the second and 4th term we get :
T2= a+d= 4..i
T4= a+3d=8...ii
solving i and ii we get a=d=2
So the first 4 terms of the harmonic series will be 1/2 + 1/4 +1/6 +1/8 =25/24

Ans 16. Sum of first n natural number = n(n+1)/2
Sum of number from 101 to 200 = sum of number from 1to 200 -
sum of numbers from 1 to 100.
Sum of number from 1to 200= 200*201/2= 20100
Sum of numbers from 1 to 100 = 100*101/2= 5050
Required sum = 20100-5050 = 15050
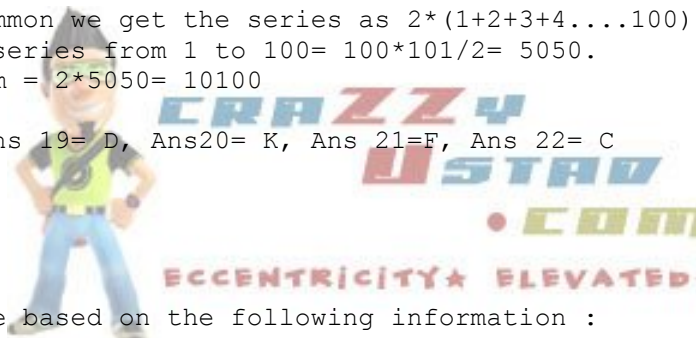
Ans 17. Sum of Even number= 2+4+6+8...200.
Taking 2 common we get the series as 2*(1+2+3+4....100)
Now sum of series from 1 to 100= 100*101/2= 5050.
Required sum = 2*5050= 10100

Ans18= J, Ans 19= D, Ans20= K, Ans 21=F, Ans 22= C

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Q1 to Q4 are based on the following information :

Two friends A and B start from a same point for a same destination at the same time but in different vehicles. A travels at a constant speed of 40 Km per hour, B travel at a constant speed of 60 Km per hour. After they have travelled for 30 minutes each, A finds that he forgot his driving licence at home and so he returns back at speed of 20 Km per hour. As soon as he reaches home he starts his journey again, but this time at a speed of 75 Km/hour .

Q1. After how many hours will A and B meet since they first started their journey.

Q2. What is the total distance covered by A at the point he meets B?

Q3. If the destination is 533 Km far from the starting point , who will reach the destination first ?

Q4. How many Km apart are A and B after 3 hours of start of journey ?

Q5 to Q8 are based on the following information :

Two cities Neelanagar and Peelanagar are 280 Km apart. Two trains start at the same time from these two cities to travel to the other city. Train A starts from Neelanagar at a speed of 30 Km per hour and Train B starts from PeelaNagar at speed of 40 Km per hour. A city LalNagar is on the route between Neelanagar and Peelanagar and is 240 Km from Neelanagar. A train "C" starts from Lalanagar for Neelanager on a parallel track, 2 hour after train A and B started.

Q5. What is the ratio of time taken by Train A and B to reach LalNagar?

Q6. What should be the speed of Train C , so that all the three train meet at the same place and time ?

Q7. If the Train C travels at a speed of 50 Km per hour which train will it meet first ?

Q8. The train C starts after 2 hours of Train A and Train B as mentioned earlier. If the speed of Train C is 45Km Per hour and train A increases it speed to 50 Km per hour after it meets train B, which train will reach its destination first ?

Q9 to Q18 are based on following information :

Consider Delhi, Pune and Bhopal to be on a same straight line with the distance between Delhi and Bhopal as 600 Km and distance between Bhopal and Pune as 900 Km. 4 trains start at a same time from different cities as follows.
The first one (DP Express) leaves Delhi for Pune at a speed of 75 Km/hour, the second (PD express) leaves Pune for Delhi at a speed of 60 Km per hour, the third (BD express) leaves Bhopal for Delhi at a speed of 45 Km per hour and the fourth one (BP express) leaves Bhopal for Pune at a speed of 40 Km per hour.
Assume that all the trains are non stop trains and travel at constant speed.

Q9. What will be the distance travelled by DP express when PD express and BP express meet each other ?

Q10. How many Kms apart will be the BD express from the point where PD express and BP express meet each other ?

Q11. When DP express and BD express meet each other, how far will be BP express from its destination ?

Q12. How far will be PD express from Bhopal when DP express and BD express meet each other?

Q13. Which two trains will be the first one to meet and how many Kms away will they be from Pune.

Q14. Which train will be the first one to reach its destination ?

Q15. After how many hours of start of journey will DP and PD

express meet ?

Q16. At what distance from Pune will the DP express and BP express meet?

Q17. After two hours of all the train started, a train (T1) starts from the mid point of Bhopal and Pune towards Pune, at a speed of 50 Km per hour. At what distance from Bhopal will the train T1 and PD express meet.

Q18. When T1 and meets PD express how many Km far will be BP express from Pune?

MATCH THE WORDS IN SET A WITH THEIR MEANINGS IN SET B

SET A :
Q19. Amalgamate,   Q20. Cavil, Q21. Paranoid,   Q22. Rebuff,
Q23. Coagulation , Q24. Subjacent

SET B:
A. A small exclusive group.
B. To reject an offer or approach made by somebody.
C. To serve as a remembrance of.
D. To make frivolous objections.
E. To change to a thick and solid state.
F. Situated directly underneath.
G. Likely to do the unexpected.
H. To mix or join together two or more things to make as one.
I. A tall narrow building
J. To be unreasonably suspicious about other people motives and thoughts

ANSWERS :

Ans 1. After 30 Minutes A would have covered 20 Km and B 30 Km.
A returns back at speed of 20 Km / hour so he will take 1 hour to return.
B would have covered another 60 Km , so he had gained total distance of 90 Km by the time A starts again.
Now A starts at speed of 75 and B is travelling at speed of 60.
The distance between two of them is 90 Km. A gains 15 Km per hour, so to gain 90 Km he will need 6 hours.
So A and B will meet 7.5 (6+1.5) hours after they first started their journey.

Ans 2. In first 1.5 hours A travel 20+20=40 Km
In next 6 hours A covers 6*75= 450
So the total distance travelled by A= 450+40 =490 Km.

Ans 3. The two friends meet 450 Km from the starting point and

at that time A is travelling at faster speed than B , so he will reach the destination earlier, if it is more than 450 Km.

Ans 4. After 3 hours A is 75*1.5= 112.5 Km from the starting point. (Effective Distance covered in first 1.5 hours is 0)
After 3 hours B is 60*3= 180 Km from the starting point.
So the distance between the two = 180-112.5= 67.5 Km

Ans 5. Distance between Neelnagar and LalNagar= 240
Time taken to cover 240 Km by Train A= 240/30= 8 hours
Distance between LalNagar and Peelanagar = 40.
Time taken by Train B to cover 40 Km = 1 hour
Required ratio = 8:1

Ans 6. Let Train A and B meet after time T.
The total distance covered by Train A and B after time T will be equal to 280 Km.
So we get 30T+40T= 280 or 70T =280 so T =4
In 4 hour Train A will will cover 120 Km and Train B will cover 160 Km.
So the trains will meet at 120 Km from LalNagar.
To meet Train A and B at a point 120 Km from Lalnager , Train C will have to cover 120 Km in 2 hours, so the required speed is 60 Km per hour.

Ans 7. When train C starts that is after 2 hours of train A and B, Train A has covered 60 Km and Train B has covered 80 Km.
Distance between Train B and C is 40 Km and distance between Train A and Train C is (280-40-60=180 Km).
Train A is moving towards Train C and Train B is moving in same direction as Train C.
To gain the 40 Km gain over Train B, Train C will need 4 hours (effective speed =50-40=10 Km/hr)
To cover distance of 180 Km Train A and C need
30T+50T=180 or 80 T =180 so T= 2.25 Hours.
So Train A will meet Train C first.

Ans 8. Train B will reach its destination after 280/40= 7 hours.
Train A and Train B meet after 4 hours (As mentioned in answer 6)
Train A Travels at speed of 30 Km for first 4 hours and after that at speed of 50 Km per hour. So it will take [4+ (280-120)/50]= 7.2 hours
Train C will reach its destination after (280-40/45)= 5.33 hours of start of its journey. As it started 2 hours later it will reach 7.33 hours after the start of Train A and B.
So Train B will be the first one to reach its destination.

Ans 9. PD Express and BP express will meet in between Bhopal and Pune. The distance between Bhopal and Pune is 900 Km.
The trains will meet at a time when the total distance travelled by the two is 900 Km.
So 60T+40T=900
or 100 T= 900 so T =9.
In 9 hours DP express will travel 9* 75= 675Km.

Ans 10. PD express and BP express meet after 9 hours as
mentioned in Ans 9.
In 9 hours BD express will move 45*9= 405 Km.
So required distance = 405 + 9* Speed of BP Express
=405+9*40= 405+360= 765 Km

Ans 11. DP express and BD express will meet between Bhopal
and Delhi. The distance between Bhopal and Delhi is 600 Km.
The trains will meet at a time when the total distance travelled in
600 Km.
75T+45T=600 or T =5.
So they will meet after 5 hours.
BP express in 5 hours will travel 40*5=200 Km.
Total distance to be covered by BP express = 900 Km, so
balance distance = 700 Km.

Ans 12. DP express and BD express meet each other after 5
hours as calculated in Ans 11.
In 5 hours PD express will travel 5*75=375 Km.
Distance between Bhopal and Delhi = 600.
So the required distance = 600-375= 225 Km.

Ans 13. As calculated in Ans 9 PD express and BP express will
meet after 9 hours.
As calculated in Ans 11 DP express and BD express will meet in
5 hours.
Other trains like DP and PD meeting each other or DP and BP
meeting each other or PD and BD meeting each other can be
ignored as they will meet much later.
In 5 hour DP express travels 375 Km which is 1,125 Km (1,500-
375=1,125) from Pune.

Ans 14. DP Express will reach in 1500/75 =20 Hours
PD will reach in 1500/ 60 = 25 Hours
BD express will reach in 600/45= 13.33 Hours
BP express will reach in 900/40= 22.5 hours
So BD express will reach its destination first.

Ans 15. Let the trains meet after T hours. After T hours the total
distance travelled by the two trains will be 1500 Km
75T+60T= 1500
or 135T=1500 or T =11.11 hours

Ans 16. Let DP express and BP express meet after time T. Let
the distance from Pune be D
For DP express we get 1500-75T=D....i
and for BP express we get 900-40T=D...ii
or 1500-75T=900-40T
or 600=35T so T= 120/7 Hours
Put the value of T in i we get
1500-75*120/7=D= 214.28 Km

Ans 17. Half distance of Bhopal to Pune = 450.
In 2 hours PD express will travel 2*60= 120.
So balance distance = 450-120= 330 Km
Let the two train meet after time T after the start of Train T1.
50T + 60T= 330 so T =3

So after 3 hours of start of Train T1 the two train will meet.
In 3 hours T1 will travel 50*3=150 Km.
So distance from Bhopal = 450+150= 600 Km

Ans 18. When T1 meets PD express BP has already travelled for 5 hours (From Ans 17).
In 5 hours BP express will travel 5*40=200 towards Pune from Bhopal.
So it will be 900-200= 700 Km away from Pune.

Ans 19= H, Ans 20=D, Ans 21=J, Ans 22=B, Ans23= E, Ans 24= F