

Pavzi Media

AP POLYCET- 2016

Mathematics

Model Paper for Telugu Medium

Questions with Answers

త్రికోణమితి

1. $\sin^2 60^\circ - \sin^2 30^\circ$ విలువ []

- 1) $\frac{1}{4}$ 2) $\frac{1}{2}$ 3) $\frac{3}{4}$ 4) $-\frac{1}{2}$

2. $\tan \theta = \sqrt{3}$ అయిన $\sin \theta$ విలువ []

- 1) $\frac{1}{\sqrt{3}}$ 2) $\frac{\sqrt{3}}{2}$ 3) $\frac{2}{\sqrt{3}}$ 4) 1

3. $\sin \theta = \frac{a}{b}$ అయిన $\tan \theta$ విలువ []

- 1) $\frac{b}{\sqrt{a^2 + b^2}}$ 2) $\frac{b}{\sqrt{a^2 - b^2}}$
3) $\frac{a}{\sqrt{a^2 - b^2}}$ 4) $\frac{a}{\sqrt{b^2 - a^2}}$

4. $\sin \theta = \frac{5}{13}$ అయిన $\tan \theta$ విలువ []

- 1) $\frac{5}{12}$ 2) $\frac{12}{13}$ 3) $\frac{13}{12}$ 4) $\frac{12}{5}$

5. $\cos^2 \theta + \sin^2 \theta =$ []

- 1) 0 2) 1 3) $\frac{1}{2}$ 4) θ^2

6. $\sqrt{3} \cos A = \sin A$ అయిన $\cot A$ విలువ []

- 1) $\sqrt{3}$ 2) 1 3) $\frac{1}{\sqrt{3}}$ 4) 2

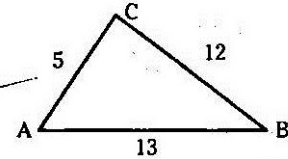
7. $\sin \theta = \cos \theta$ అయిన $2 \tan \theta + \cos^2 \theta$ విలువ

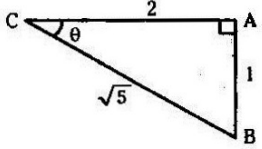
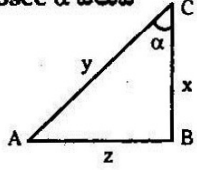
- 1) 1 2) $\frac{1}{2}$ 3) $\frac{5}{2}$ 4) $\frac{2}{5}$ []

8. ఇచ్చిన పటం నుండి $\cot A$ విలువ []

- 1) $\frac{12}{13}$ 2) $\frac{5}{12}$

- 3) $\frac{5}{13}$ 4) $\frac{13}{5}$



9. $\operatorname{cosec} \theta = 2$ మరియు $\cot \theta = \sqrt{3} p$, θ అల్పకోణం అయిన p విలువ []
 1) 2 1) 3) 0 4) $\sqrt{3}$
10. ఇచ్చిన పటం నుండి $\tan \theta =$ []
 1) 2 2) $\frac{1}{\sqrt{5}}$ 3) $\frac{2}{\sqrt{5}}$ $\frac{1}{2}$
- 
11. $\tan \theta + \sec \theta = 8$ అయిన $\sec \theta - \tan \theta =$ []
 1) 8 $\frac{1}{8}$ 3) 6 4) 64
12. ఇచ్చిన పటం నుండి $\operatorname{cosec} \alpha$ విలువ []
 1) $\frac{y}{x}$ $\frac{y}{z}$ 3) $\frac{x}{z}$ 4) $\frac{x}{y}$
- 
13. $\left(\frac{11}{\cot^2 \theta} - \frac{11}{\cos^2 \theta} \right)$ విలువ []
 1) 11 2) 0 3) $\frac{1}{11}$ -11
14. $\sin^2 30^\circ + \cos^2 30^\circ$ ల విలువ []
 1) 0 2) 2 3) 3 1
15. $\sec 2A = \operatorname{cosec} (A - 27^\circ)$, $2A$ ఒక అల్పకోణం అయిన $\angle A =$ []
 1) 35° 2) 37° 39° 4) 41°
16. $\operatorname{cosec}^2 55^\circ - \cot^2 55^\circ$ ల విలువ []
 1) 2) 2 3) 3 4) 0
17. $\frac{1 - \sec^2 A}{\operatorname{cosec}^2 A - 1} =$ []
 1) $-\tan^2 A$ $-\tan^4 A$ 3) 1 4) $-\sec^2 A$
18. $\cot \phi = \frac{20}{21}$ అయిన $\operatorname{cosec} \phi$ విలువ []
 1) $\frac{21}{20}$ 2) $\frac{20}{29}$ $\frac{29}{21}$ 4) $\frac{21}{29}$
19. $\sin \theta$ యొక్క గరిష్ట విలువ []
 1) $\frac{1}{2}$ 2) $\frac{\sqrt{3}}{2}$ 1 4) $\frac{1}{\sqrt{2}}$

20. $\triangle ABC$ లో $\angle B = 90^\circ$, $AB = 12$ సెం.మీ., $BC = 9$ సెం.మీ. అయిన $\cos C$ విలువ []
 $\frac{9}{15}$ 2) $\frac{3}{4}$ 3) $\frac{5}{3}$ 4) $\frac{4}{3}$
21. $\tan \theta = \frac{7}{8}$ అయిన $\frac{(1 + \sin \theta)(1 - \sin \theta)}{(1 + \cos \theta)(1 - \cos \theta)} =$ []
 1) $\frac{7}{8}$ 2) $\frac{8}{7}$ $\frac{64}{49}$ 4) $\frac{49}{64}$
22. $(\sec 40^\circ + \tan 40^\circ)(\sec 40^\circ - \tan 40^\circ)$ యొక్క విలువ []
 1) -1 1 3) $\cos 40^\circ$ 4) $\sin 40^\circ$
23. $5 \tan \theta = 4$ అయిన $\frac{5 \sin \theta - 3 \cos \theta}{5 \sin \theta + 3 \cos \theta}$ యొక్క విలువ []
 1) 0 2) 1 $\frac{1}{7}$ 4) $\frac{2}{7}$
24. $\frac{1}{\sin \theta - \tan \theta} =$ []
 $\frac{\cot \theta}{\cos \theta - 1}$ 2) $\frac{\cot \theta}{\cot \theta - \operatorname{cosec} \theta}$ 3) $\operatorname{cosec} \theta - \cot \theta$ 4) $\cot \theta$
25. $\sec \theta = 3k$ మరియు $\tan \theta = \frac{3}{k}$ అయిన $\left(k^2 - \frac{1}{k^2} \right) =$ []
 1) 9 2) 3 $\frac{1}{9}$ 4) 1
26. $\frac{\sec A - 1}{\sec A + 1} =$ []
 1) $\frac{1 + \cos A}{1 - \cos A}$ 2) $\frac{\cos A - 1}{1 + \cos A}$ $\frac{1 - \cos A}{1 + \cos A}$ 4) $\frac{\cos A - 1}{1 - \cos A}$
27. $\frac{\sin \theta}{1 + \cos \theta} =$ []
 1) $\frac{1 - \cos \theta}{1 + \cos \theta}$ 2) $\frac{1 - \sin \theta}{\cos \theta}$ $\frac{1 - \cos \theta}{\sin \theta}$ 4) $\frac{\cos \theta}{1 - \sin \theta}$

28. $\cot^2 \theta - \frac{1}{\sin^2 \theta} =$ []

- 1) 2 2) 1
3) 0 ✓) -1

29. P, Q మరియు R లు ΔPQR ల యొక్క అంశర కోణాలైన $\left(\frac{P+Q}{2}\right) =$ []

- 1) $\sin\left(\frac{R}{2}\right)$ 2) $\cos\left(\frac{R}{2}\right)$
✓) $\cot\left(\frac{R}{2}\right)$ 4) $\tan\left(\frac{R}{2}\right)$

30. $\sin \theta = \cos \theta$, $\theta \in Q$, అయిన $\tan \theta =$ []

- 1) -1 2) 4 3) 7 ✓) 1

31. $\frac{2 \tan 30^\circ}{1 + \tan^2 30^\circ}$ యొక్క విలువ []

- ✓) $\sin 60^\circ$ 2) $\cos 60^\circ$
3) $\tan 60^\circ$ 4) $\sin 30^\circ$

32. $\frac{\sqrt{\sec^2 \theta - 1}}{\sec \theta} =$ []

- 1) $-\sin \theta$ 2) $\cos \theta$
✓) $\sin \theta$ 4) ఏదీకాదు

33. $\sin(x - 20)^\circ = \cos(3x - 10)^\circ$ అయిన 'x' = []

- 1) 60° ✓) 30°
3) 45° 4) 35.5°

34. ΔABC లో $\angle B = 90^\circ$, $AB = 12$ సెం.మీ. మరియు $BC = 5$ సెం.మీ., అయిన $\sin A$ విలువ []

- ✓) $\frac{5}{13}$ 2) $\frac{5}{12}$ 3) $\frac{12}{13}$ 4) $\frac{13}{5}$

35. $\frac{1}{\sec \theta}$, $0^\circ \leq \theta \leq 90^\circ$ యొక్క గరిష్ట విలువ []

- ✓) 1 2) 2 3) $\frac{1}{2}$ 4) $\frac{1}{\sqrt{2}}$

36. $\frac{\sin \theta}{\cos \theta} = 1$ అయిన $\operatorname{cosec} \theta =$ []

- 1) -1 2) $-\sqrt{2}$ 3) $\frac{1}{\sqrt{2}}$ ✓) $\sqrt{2}$

37. $\cos^2 17^\circ - \sin^2 73^\circ$ యొక్క విలువ []

- 1) 1 2) $\frac{1}{3}$ ✓) 0 4) -1

38. "త్రికోణమితి"ని ప్రవేశపెట్టినవారు. []

- 1) కార్టస్ 2) రెకార్డెస్
✓) హిప్పార్కుస్ 4) పైథాగరస్

39. $A = 30^\circ$ అయిన $\sin 2A =$ []

- 1) $\frac{1}{2}$ ✓) $\frac{\sqrt{3}}{2}$
3) $\frac{1}{\sqrt{2}}$ 4) 1

40. ΔABC లో $\angle B = 90^\circ$, $AB = 12$ సెం.మీ. మరియు $BC = 5$ సెం.మీ.లు అయిన $\cot C$ విలువ []

- 1) $\frac{13}{5}$ ✓) $\frac{5}{12}$ 3) $\frac{12}{5}$ 4) $\frac{5}{13}$

41. $\sin 45^\circ + \cos 45^\circ$ ల విలువ []

- 1) $\frac{1}{\sqrt{2}}$ ✓) $\sqrt{2}$ 3) $\frac{\sqrt{3}}{2}$ 4) 1

42. $\cos \theta = \frac{3}{5}$ అయిన $\frac{\sin \theta - \cos \theta}{2 \tan \theta}$ విలువ []

- ✓) $\frac{3}{160}$ 2) $\frac{7}{160}$ 3) $\frac{1}{160}$ 4) $\frac{11}{160}$

43. ΔABC లో $\angle C = 90^\circ$, $\tan A = \frac{8}{15}$ అయిన $\operatorname{cosec}^2 A - 1 =$ []

- 1) 0 2) $\frac{64}{225}$ ✓) $\frac{225}{64}$ 4) $\frac{289}{64}$

44. $\cos \theta = \frac{21}{29}$ అయిన $\frac{\sec \theta}{\tan \theta - \sin \theta}$ విలువ []

- 1) $\frac{160}{41}$ ✓) $\frac{841}{160}$ 3) $\frac{166}{41}$ 4) $\frac{41}{160}$

45. $\frac{1}{2} \tan^2 45^\circ = \sin^2 A$ అయిన ('A' ఒక అల్ప కోణం)

$\angle A =$ []

- 1) 60° ✓) 45° 3) 30° 4) 15°

46. $\tan \theta = \frac{4}{3}$ అయిన $\frac{3 \sin \theta + 2 \cos \theta}{3 \sin \theta - 2 \cos \theta}$ యొక్క

విలువ []

- 1) 1 2) 2 ✓) 3 4) 4

47. $\sin(45^\circ + \theta) - \cos(45^\circ - \theta) =$ []

- 1) $2 \sin \theta$ ✓) 0
3) 1 4) $2 \cos \theta$

48. $\cot \theta = \frac{b}{a}$ అయిన $\frac{\cos \theta + \sin \theta}{\cos \theta - \sin \theta}$ యొక్క విలువ

- 1) $\frac{b-a}{b+a}$ 2) $b-a$ []
 3) $b+a$ 4) $\frac{b+a}{b-a}$ []

49. $\tan \theta = 1$ అయిన $\frac{5 \sin \theta + 4 \cos \theta}{5 \sin \theta - 4 \cos \theta}$ యొక్క

- విలువ []
 1) 9 2) -9 3) 1 4) 0

50. $\operatorname{cosec} A = 2$ అయిన $\cot A + \frac{\sin A}{1 + \cos A}$ యొక్క

- విలువ []
 1) 1 2) 2 3) 3 4) 4

51. $\cos 2\theta = \sin 4\theta$; ఇచ్చట 2θ మరియు 4θ లు అల్పకోణాలైన 'θ' విలువ

- 1) 60° 2) 45° 3) 15° 4) 30°

52. $\cot \theta = \frac{1}{\sqrt{3}}$ అయిన $\frac{1 - \cos^2 \theta}{2 - \sin^2 \theta}$ యొక్క విలువ

- 1) $\frac{1}{5}$ 2) $\frac{2}{5}$ 3) $\frac{3}{5}$ 4) $\frac{5}{3}$ []

53. $\tan \theta, \theta$ యొక్క ఏ విలువకు నిర్వచించబడదు ?

- 1) 90° 2) 60° 3) 30° 4) 0° []

54. $\sqrt{\sec^2 A + \operatorname{cosec}^2 A} =$ []

- 1) $\tan A + \cot A$ 2) $\tan A - \cot A$
 3) $\sin A + \cos A$ 4) $\sin A - \cos A$

55. $\sin x = \cos x, 0 \leq x \leq 90^\circ$ అయిన $x =$ []

- 1) 30° 2) 90° 3) 0° 4) 45°

56. $\frac{\tan \alpha + \tan \beta}{\cot \alpha + \cot \beta} =$

- 1) $\tan \alpha \cdot \tan \beta$ 2) $\tan \alpha \cdot \cot \beta$
 3) $\tan \beta \cdot \cot \alpha$ 4) $\cot \beta \cdot \cot \alpha$

57. $2 \sin \theta = \sin^2 \theta, \theta$ యొక్క ఏ విలువకు ఇది సత్యం ?

- 1) 0° 2) 45° 3) 30° 4) 60° []

58. $\frac{\tan \alpha}{\sqrt{1 + \tan^2 \alpha}} =$ []

- 1) $\sin \alpha$ 2) $\cos \alpha$
 3) $\operatorname{cosec} \alpha$ 4) $\sec \alpha$

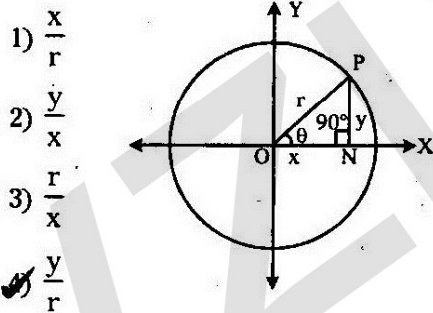
59. $\sin 45^\circ \cdot \cos 45^\circ + \cos 60^\circ = \tan \theta$ అయిన θ విలువ

- 1) 0° 2) 30° 3) 45° 4) 60° []

60. $\frac{1 - \tan^2 \alpha}{\cot^2 \alpha - 1} =$ []

- 1) $\tan^2 \alpha$ 2) $\cot^2 \alpha$
 3) $-\tan^2 \alpha$ 4) $-\cot^2 \alpha$

61. ఇచ్చిన పటం నుండి $ON = x; PN = y$ మరియు $OP = r; \angle PON = \theta^\circ$ మరియు $\angle PNO = 90^\circ$; $\sin \theta =$ []



62. $\cos^4 \theta - \sin^4 \theta =$ []

- 1) $1 - 2 \sin^2 \theta$ 2) $1 - 2 \cos^2 \theta$
 3) $1 - \sin^2 \theta$ 4) $1 - \cos^2 \theta$

63. $\cos \theta =$ (from Q.No. 61) []

- 1) $\frac{x}{r}$ 2) $\frac{y}{r}$ 3) $\frac{r}{x}$ 4) $\frac{y}{x}$

64. $\tan \theta =$ (from Q.No. 61) []

- 1) $\frac{x}{y}$ 2) $\frac{y}{x}$ 3) $\frac{r}{x}$ 4) $\frac{r}{y}$

65. $\sec^2 \theta - \operatorname{cosec}^2 \theta =$ []

- 1) $\tan^2 \theta - \cot^2 \theta$ 2) $\tan^2 \theta + \cot^2 \theta$
 3) $\cot^2 \theta - \tan^2 \theta$ 4) $\sec^2 \theta \cdot \operatorname{cosec}^2 \theta$

66. $\frac{\tan \theta}{\sqrt{1 + \tan^2 \theta}}$ యొక్క విలువ []

- 1) $\cos \theta$ 2) $\sin \theta$ 3) $\sec \theta$ 4) $\cot \theta$

67. $\sin \theta \cdot \operatorname{cosec} \theta + \cos \theta \cdot \sec \theta + \tan \theta \cdot \cot \theta =$ []

- 1) 3 2) 1
 3) $\sin \theta \cdot \cos \theta \cdot \tan \theta$ 4) ఏదీకాదు

68. $\frac{\sqrt{\operatorname{cosec}^2 \theta - 1}}{\operatorname{cosec} \theta} =$ []

- 1) $\cos \theta$ 2) $\sec \theta$ 3) $\sin \theta$ 4) $\operatorname{cosec} \theta$

69. $\sin \theta \cdot \operatorname{cosec} \theta = x$ అయిన $x =$ []
 1) 0 1) 3) $\frac{1}{\sin \theta}$ 4) $\frac{1}{\operatorname{cosec} \theta}$
70. $\sin \theta \cdot \operatorname{cosec} \theta + \cos \theta \cdot \sec \theta =$ []
 2) 1) 3) $\frac{1}{2}$ 4) -1
71. $\sin \theta = \frac{a}{b}$, అయిన $\cos \theta =$ []
 1) $\frac{\sqrt{a^2 - b^2}}{b}$ 2) $\frac{b}{a}$
 $\frac{\sqrt{b^2 - a^2}}{b}$ 4) $\frac{b-a}{b}$
72. $\frac{1}{\sin^2 \theta} - \cot^2 \theta =$ []
 1) -2 2) -1 3) 2 4) 1
73. $\sin \theta = \frac{12}{13}$, అయిన $\tan \theta =$ []
 1) $\frac{13}{5}$ 2) $\frac{5}{12}$ 3) $\frac{13}{12}$ $\frac{12}{5}$
74. $\frac{2 - \tan \theta}{2 \operatorname{cosec} \theta - \sec \theta} =$ []
 1) $\tan \theta$ 2) $\cos \theta$ 3) $\sin \theta$ 4) $\cot \theta$
75. $\sin \theta \cdot \sec \theta =$ []
 1) $\tan \theta$ 2) $\operatorname{cosec} \theta$
 3) $\cot \theta$ 4) $\sin \theta \cdot \cos \theta$
76. $\sin \theta = \frac{1}{2}$, అయిన $(\tan \theta + \cot \theta)^2$ యొక్క విలువ []
 1) $\frac{16}{3}$ 2) $\frac{8}{3}$ 3) $\frac{4}{3}$ 4) $\frac{10}{3}$
77. $\sqrt{1 + \cot^2 \theta} =$ []
 1) $\operatorname{cosec}^2 \theta$ 2) $1 + \cot \theta$
 3) $\sec \theta$ 4) $\operatorname{cosec} \theta$
78. $\cos(-\theta) =$ []
 1) $-\cos \theta$ 2) $\cos \theta$ 3) $\sin \theta$ 4) ఏదీకాదు
79. $\sec \theta = \frac{13}{12}$, అయిన $\sin \theta =$ []
 1) $\frac{5}{13}$ 2) $\frac{5}{12}$ 3) $\frac{12}{5}$ 4) $\frac{12}{13}$
80. $\sin 18^\circ = \cos x$, అయిన $x =$ []
 1) 73° 2) 37° 3) 72° 4) 84°

81. $\tan 135^\circ =$ []
 1) $\frac{1}{\sqrt{3}}$ 2) $\sqrt{3}$ 3) $-\sqrt{3}$ 4) -1
82. $A + B = \frac{\pi}{2}$, అయిన $\sin^2 A + \sin^2 B =$ []
 1) 1 2) 0 3) -1 4) 3
83. $\sqrt{1 + \sin A} \cdot \sqrt{1 - \sin A} =$ []
 1) $\sin A$ 2) $1 - \sin^2 A$
 3) $\cos A$ 4) 1
84. $\cos^2 45^\circ$ యొక్క విలువ []
 1) $\frac{1}{\sqrt{2}}$ 2) $\frac{\sqrt{3}}{2}$ 3) $\frac{1}{2}$ 4) $\frac{1}{\sqrt{3}}$
85. $\sin(90^\circ + \theta) =$ []
 1) $\cos \theta$ 2) $-\cos \theta$
 3) $\sin \theta$ 4) $-\sin \theta$
86. $\tan^2 60^\circ$ యొక్క విలువ []
 1) 3 2) $\frac{1}{3}$ 3) 1 4) ∞
87. $\tan^2 30^\circ + 2\cot^2 60^\circ$ యొక్క విలువ []
 1) $\frac{2}{3}$ 2) 2 3) 1 4) $\frac{4}{3}$
88. $\sin 65^\circ =$ []
 1) $\operatorname{cosec} 45^\circ$ 2) $\cos 55^\circ$
 3) $\sin 25^\circ$ 4) $\cos 25^\circ$
89. $\sin^2 75^\circ + \cos^2 75^\circ =$ []
 1) 75 2) 150 3) $\tan^2 75^\circ$ 4) 1
90. $\tan 81^\circ =$ []
 1) $\sin 9^\circ$ 2) $\cos 19^\circ$
 3) $\cot 9^\circ$ 4) $\sec 81^\circ$
91. $\sin^4 \theta - \cos^4 \theta =$ []
 1) 1 2) $\cos^2 \theta - \sin^2 \theta$
 3) $2 \sin^2 \theta - 1$ 4) $2 \sin^2 \theta$
92. $\tan \theta = \frac{1}{\sqrt{3}}$ అయిన 'θ' యొక్క విలువ []
 1) 30° 2) 60° 3) 45° 4) 90°
93. $\tan \theta = \frac{1}{\sqrt{3}}$ అయిన $\cos \theta$ యొక్క విలువ []
 1) $\frac{1}{2}$ 2) $\frac{\sqrt{3}}{2}$ 3) $\frac{2}{\sqrt{3}}$ 4) $\sqrt{3}$
94. $\operatorname{cosec} 0^\circ =$ []
 1) $\frac{1}{\cos 0^\circ}$ 2) $\frac{1}{\sin 0^\circ}$ 3) $\frac{1}{\sec 0^\circ}$ 4) $\frac{1}{\tan 0^\circ}$

95. $(1 + \tan \theta)^2 =$ []
 1) $\sec^2 \theta$ 2) $\sec^2 \theta + 2 \tan \theta$ ✓
 3) $\sec^2 \theta + \tan^2 \theta$ 4) $\sec^2 \theta + \tan \theta$

96. $2 \sin^2 60^\circ \cdot \cos 60^\circ$ యొక్క విలువ []
 1) $\frac{4}{3}$ 2) $\frac{5}{2}$ 3) $\frac{3}{4}$ ✓ 4) $\frac{1}{3}$

97. $\tan \theta$ ను $\sec \theta$ లో తెలుపగా []
 1) $\frac{\sqrt{\sec^2 \theta - 1}}{\sec \theta}$ 2) $\frac{\sec \theta}{\sqrt{\sec^2 \theta - 1}}$
 3) $\frac{1}{\sqrt{\sec^2 \theta - 1}}$ 4) $\sqrt{\sec^2 \theta - 1}$ ✓

98. $\frac{\operatorname{cosec} 39^\circ}{\sec 51^\circ}$ యొక్క విలువ []
 1) 0 2) 2 3) 3 4) 1 ✓

99. $\sin^2 60^\circ \cdot \cot^2 60^\circ$ యొక్క విలువ []
 1) $\frac{1}{4}$ ✓ 2) 3 3) $\frac{\sqrt{3}}{2}$ 4) $\frac{3}{4}$

100. $\tan \frac{\pi}{6} \cdot \tan \frac{\pi}{3}$ యొక్క విలువ []
 1) 0 2) 1 ✓ 3) -1 4) 2

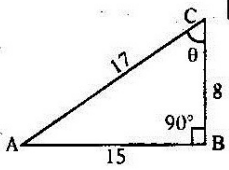
101. $5 \sin A = 3$ అయిన $\sec^2 A - \tan^2 A =$ []
 1) $\frac{9}{25}$ 2) 0 3) $\frac{25}{9}$ 4) 1 ✓

102. $(\sin \theta + \cos \theta)^2 + (\sin \theta - \cos \theta)^2 =$ []
 1) $2 \sin^2 \theta + \cos^2 \theta$ 2) 2 ✓
 3) $2 \sin^2 \theta + 4 \cos^2 \theta$ 4) $2 \sin^2 \theta$

103. $\cos \theta = \frac{\sqrt{3}}{2}$ మరియు 'θ' ఒక అల్పకోణమైన
 $4 \sin^2 \theta + \tan^2 \theta$ విలువ []
 1) $\frac{3}{4}$ 2) 1 3) $\frac{4}{3}$ ✓ 4) $\frac{5}{3}$

104. $4 \cos^3 30^\circ - 3 \cos 30^\circ$ విలువ []
 1) 0 ✓ 2) 3 3) 2 4) 4

105. ఇచ్చిన పటం ΔABC లో $\angle B = 90^\circ$; $\angle C = \theta$ అయిన $\tan \theta =$ []
 1) $\frac{8}{17}$ 2) $\frac{15}{8}$ ✓
 3) $\frac{8}{15}$ 4) $\frac{17}{15}$



106. $\frac{\sin 45^\circ \cdot \cos(90^\circ - \theta)}{\cos 45^\circ \cdot \sin(90^\circ - \theta)}$ విలువ []
 1) $\tan \theta$ ✓ 2) $\cot \theta$ 3) 1 4) $-\tan \theta$

107. $\sin(A - B) = \frac{1}{2}$; $\cos(A + B) = \frac{1}{2}$. అయితే A = []
 1) 60° 2) 15° 3) 30° 4) 45° ✓

108. $\{\cos 0^\circ - \sin(90^\circ - \theta)\} \cdot \{\cos 0^\circ + \sin(90^\circ - \theta)\}$ విలువ []
 1) $\sin \theta$ 2) $\sin^2 \theta$ ✓ 3) $\cos \theta$ 4) $\cos^2 \theta$

109. $\cos 0^\circ + \sin 90^\circ + \sqrt{2} \cdot \sin 45^\circ$ విలువ []
 1) 0 2) $2 + \sqrt{2}$ 3) 4 4) 3 ✓

110. $\tan 5^\circ \cdot \tan 25^\circ \cdot \tan 45^\circ \cdot \tan 65^\circ \cdot \tan 85^\circ$ విలువ []
 1) 2 2) 3 3) 1 ✓ 4) 4

111. $3 \sin^2 45^\circ + 2 \cos^2 60^\circ$ విలువ []
 1) 2 ✓ 2) 4 3) $3\frac{1}{2}$ 4) $1\frac{1}{2}$

112. $\cos^2 \theta = \frac{1}{2}$ అయిన $\sin^2 \theta$ విలువ []
 1) $\frac{1}{4}$ 2) $\frac{\sqrt{3}}{2}$ 3) $\frac{1}{\sqrt{2}}$ 4) $\frac{1}{2}$ ✓

113. $\sin(-\theta) =$ []
 1) $\sin \theta$ 2) $\cos \theta$ 3) $-\cos \theta$ 4) $-\sin \theta$ ✓

114. $\cos\left(\frac{\pi}{2} - 30^\circ\right) =$ []
 1) $\frac{1}{\sqrt{3}}$ 2) $\frac{1}{\sqrt{2}}$ 3) $\frac{1}{2}$ ✓ 4) $\frac{\sqrt{3}}{2}$

115. $\cos 240^\circ$ యొక్క విలువ []
 1) $\frac{1}{2}$ 2) $-\frac{\sqrt{3}}{2}$ 3) $-\frac{1}{2}$ ✓ 4) ఏదీకాదు

116. $\frac{\tan 35^\circ}{\cot(90^\circ - 35^\circ)} + \frac{\tan 15^\circ}{\cot(90^\circ - 15^\circ)} - 2 \tan 45^\circ$ విలువ []
 1) 4 2) 2 3) 1 4) 0 ✓

117. $\tan \theta + \cot \theta = 2$ అయిన $\tan^2 \theta + \cot^2 \theta =$ []
 1) 4 2) 2 ✓ 3) 6 4) 1

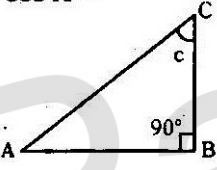
118. $\cos 25^\circ \cdot \sin 65^\circ + \sin 25^\circ \cdot \cos 65^\circ$ విలువ []
 1) $\cos 40^\circ$ 2) $\sin 40^\circ$ 3) 1 ✓ 4) 0

119. $\tan 60^\circ - \tan 30^\circ$ విలువ []
 1) $\frac{1}{\sqrt{3}} - \sqrt{3}$ 2) $\frac{1}{\sqrt{3}}$ 3) $\frac{2\sqrt{3}}{3}$ ✓ 4) $\frac{\sqrt{3}}{3}$

120. $\sin \theta = \frac{\sqrt{3}}{2}$ అయిన θ విలువ []
 1) 120° 2) 60° 3) 45° 4) 90°
121. $\sin \theta = \cos \theta$ అయిన $\theta =$ []
 1) 30° 2) 45° 3) 60° 4) 90°
122. $(\operatorname{cosec}^2 \theta - \cot^2 \theta) (1 - \cos^2 \theta) =$ []
 1) $\operatorname{cosec}^2 \theta$ 2) $\tan^2 \theta$
 3) $\sec^2 \theta$ 4) $\sin^2 \theta$
123. $(1 + \tan^2 60^\circ)^2 =$ []
 1) 1 2) 2 3) 4 4) 16
124. $(1 + \cot^2 \theta) (1 + \cos \theta) (1 - \cos \theta)$ విలువ []
 1) $\sin^2 \theta$ 2) $\operatorname{cosec}^2 \theta$
 3) 1 4) $\sec^2 \theta$
125. $\sin (A - B) = \frac{1}{2}$; $\cos (A + B) = \frac{1}{2}$ అయిన B = []
 1) 15° 2) 30° 3) 45° 4) 60°
126. $\sin \alpha = \cos \alpha$ అయిన α విలువ []
 1) 30° 2) 45° 3) 60° 4) 90°
127. $\cos 54^\circ \cdot \operatorname{cosec} 54^\circ \cdot \tan 54^\circ$ విలువ []
 1) 4 2) 1 3) $\sqrt{2}$ 4) $\sqrt{3}$
128. $\cos (270^\circ - \theta) =$ []
 1) $-\cos \theta$ 2) $-\sin \theta$
 3) $\sin \theta$ 4) $\cos \theta$
129. $0^\circ \leq \theta \leq 90^\circ$ అయిన $\sin \theta + \cos \theta$ యొక్క గరిష్ట విలువ []
 1) $\sqrt{2}$ 2) $\frac{1}{\sqrt{2}}$ 3) 1 4) 2
130. $\tan^2 \theta (\operatorname{cosec}^2 \theta - 1)$ విలువ []
 1) $\tan^2 \theta$ 2) $\operatorname{cosec}^2 \theta$
 3) $\cot^2 \theta$ 4) 1
131. $\alpha + \beta = 90^\circ$ మరియు $\alpha = 2\beta$ అయిన $\cos^2 \beta + \sin^2 \beta =$ []
 1) 1 2) 0 3) $\frac{1}{2}$ 4) 2
132. $\sin \theta = \frac{1}{2}$ అయిన $\sin 2\theta$ విలువ []
 1) 1 2) $\frac{\sqrt{3}}{2}$ 3) $\frac{1}{2}$ 4) $-\frac{\sqrt{3}}{2}$
133. ΔABC లో $\angle B = 90^\circ$; $\tan C = \frac{5}{12}$ అయిన కర్ణం పొడవు []
 1) 16 2) 13 3) 21 4) 17
134. θ ఒక అల్పకోణం మరియు $\sec \theta = \frac{13}{12}$ అయిన $\tan \theta$ విలువ []
 1) $-\frac{5}{12}$ 2) $\frac{5}{12}$ 3) $\frac{12}{13}$ 4) $-\frac{12}{13}$
135. $\tan \theta = \frac{1}{\sqrt{3}}$ అయిన $7\sin^2 \theta + 3\cos^2 \theta =$ []
 1) 1 2) 2 3) 3 4) 4
136. $\frac{\sin 19^\circ}{\cos 71^\circ}$ విలువ []
 1) > 1 2) 1 3) < 1 4) 0
137. $\cos^2 0^\circ + \cos^2 60^\circ =$ []
 1) $\frac{5}{4}$ 2) $\frac{2}{\sqrt{3}}$ 3) $\frac{1}{\sqrt{2}}$ 4) $\frac{\sqrt{3}}{2}$
138. $\cos \theta = \frac{1}{2}$, అయిన $\operatorname{cosec}^2 \theta$ విలువ []
 1) $\frac{1}{2}$ 2) $\frac{\sqrt{3}}{2}$ 3) $\frac{3}{4}$ 4) $\frac{4}{3}$
139. $\sin (270^\circ + \theta) =$ []
 1) $-\cos \theta$ 2) $\cos \theta$ 3) $-\sin \theta$ 4) $\sin \theta$
140. $\theta = 45^\circ$ అయిన $\frac{1 - \cos^2 \theta}{\sin^2 \theta}$ విలువ []
 1) 0 2) 1 3) 2 4) ∞
141. A, B లు అల్ప కోణాలు. $\sin (A - B) = \frac{1}{2}$; $\sin A = \frac{1}{2}$ అయిన $\angle B =$ []
 1) $\frac{\pi}{3}$ 2) $\frac{\pi}{5}$ 3) $\frac{\pi}{6}$ 4) $\frac{\pi}{12}$
142. $\sin^2 \theta + \frac{1}{1 + \tan^2 \theta}$ విలువ []
 1) $\sin^2 \theta$ 2) $\cos^2 \theta$
 3) $\sec^2 \theta$ 4) 1
143. ΔABC లో $a = 3$; $b = 4$; $c = 5$ అయిన $\cos A =$ []
 1) $\frac{3}{5}$ 2) $\frac{3}{4}$ 3) $\frac{5}{3}$ 4) $\frac{4}{5}$

144. $\cos 20^\circ \cdot \cos 70^\circ - \sin 20^\circ \cdot \sin 70^\circ$ యొక్క విలువ
 1) 0 2) 1 []
 3) ∞ 4) $\cos 50^\circ$

145. $\sin c = \frac{3}{5}$ అయిన $\cos A =$ []
 1) $\frac{3}{5}$ 2) $\frac{4}{5}$
 3) $\frac{5}{4}$ 4) $\frac{5}{3}$



146. ΔABC ఏదైన ఒక త్రిభుజం అయిన $\sin\left(\frac{B+C}{2}\right)$ యొక్క విలువ []
 1) $\cos \frac{A}{2}$ 2) $\sin \frac{A}{2}$

3) $-\sin \frac{A}{2}$ 4) $-\cos \frac{A}{2}$

147. $\sec A \cdot \sqrt{1 - \sin^2 A} =$ []
 1) $\cos A$ 2) $\sec A$
 3) 0 4) 1

148. $\sec \theta + \tan \theta = m$ మరియు $\sec \theta - \tan \theta = n$ అయిన mn విలువ []
 1) 2 2) 1
 3) ± 1 4) ± 2

149. $\cot(270^\circ - \theta) =$ []
 1) $-\tan \theta$ 2) $\tan \theta$
 3) $\cot \theta$ 4) $-\cot \theta$

150. $\sin \theta + \cos \theta = \sqrt{2} \cos(90^\circ - \theta)$ అయిన $\cos \theta =$ []
 1) $-\sqrt{2} \sin \theta$ 2) $\sqrt{2} \sin \theta$
 3) $(\sqrt{2} + 1) \sin \theta$ 4) $(\sqrt{2} - 1) \sin \theta$