MATHS

BOOKS - VGS BRILLIANT MATHS (TELUGU ENGLISH)

TRIGONOMETRY

TRIGONOMETRY (MULTIPLE CHOICE QUESTION)

1. Solve: $\sin^2\theta - \cos\theta = \frac{1}{4}$ in the interval $(0^\circ \leq \theta \leq 2\pi^c)$

A. $\left\{\frac{\pi}{3}, \frac{5\pi}{3}\right\}$

B. $\left\{\pi, \frac{\pi}{2}\right\}$

C. $\left\{\frac{\pi}{3}, \frac{\pi}{4}\right\}$

D. None

Answer: A

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2. Find the extreme values of 7cosx-24sinx+5 over R.

A. (-20,10)

B. (-10,20)

C. (-20,30)

D. None

Answer: C

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3. IF $\frac{\cos\alpha}{a} = \frac{\sin\alpha}{b}$ then a $\cos 2\alpha + b\sin 2\alpha$=.....

A. a

B. b

C. a^2

D. $-a$

Answer: A

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4. IF $\cos\theta > 0, \tan\theta + \sin\theta = m$ and $\tan\theta - \sin\theta = n$ then $m^2 - n^2$=.....

A. 4

B. 4mn

C. $4\sqrt{mn}$

D. $\sqrt{mn}$

Answer: C

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5. $\frac{1}{sin10^\circ} - \frac{\sqrt{3}}{\cos 10^\circ} =$

A. 4

B. $\frac{1}{4}$

C. $\sqrt{3}$

D. None

Answer: A

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6. $\cos 100^\circ . \cos 40^\circ + \sin 100^\circ . \sin 40^\circ$ =.....

A. 2

B. $\frac{1}{2}$

C. 1

D. -1

Answer: B

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7. IF $\tan\theta + \cot\theta = x, \sec\theta - \cos\theta = y$ then eliminate $'\theta'$.

A. $x^2y - xy^2$

B. $\left(x^2y\right)^{2/3} - \left(xy^2\right)^{2/3} = 1$

C. $x^2y^2 + yx^2 = 1$

D. $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$

Answer: B

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8. The angles of a Quadrilateral are in A.P. Greatest angle is double the least . Find the angles in circular measure.

A. $\frac{\pi^c}{3}$

B. $\frac{\pi^c}{4}$

C. π^c

D. $2\pi^c$

Answer: A

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9. IF sin(A-B)=$\frac{3}{5}$ and sin(A+B)=$\frac{4}{5}$ then find sin2A=.....

A. 2

B. -1

C. 1

D. 0

Answer: C

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10. IF 5sinx+12cosx=7 then find 5cosx-12sinx=.....

A. $\sqrt{12}$

B. $\sqrt{120}$

C. $\sqrt{150}$

D. 0

Answer: D

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11. If $\sin\alpha + \operatorname{cosec}\alpha = 2$, find value of $\sin^n\alpha + \operatorname{cosec}^n\alpha, n \in Z.$

A. 2

B. -2

C. 0

D. None

Answer: A

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12. Find the condition that

$\sec^2\theta = \frac{4xy}{(x+y)^2}$ is true.

A. x=0

B. y=0

C. x=y

D. None

Answer: C

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13. Solve: $\tan^2\theta + \sec 2\theta = 1, 0^\circ \leq \theta \leq 90^\circ$

A. $\theta = 60^\circ$

B. $\theta = \frac{\pi}{4}$

C. $2\frac{\pi}{3}$

D. None

Answer: A

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14. In any Δ^{le} ABC then $\cot\frac{A}{2} + \cot + \frac{B}{2}\cot\frac{C}{2} = ...$

A. $\sin\frac{A}{2}\sin\frac{B}{2}\sin\frac{C}{2}$

B. $\cot\frac{A}{2}.\cot\frac{B}{2}.\cot\frac{C}{2}$

C. $\cos A.\cos B.\cos C$

D. $\sin\frac{A}{2}.\cos\frac{B}{2}\sin\frac{C}{2}$

Answer: B

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15. Given $\alpha+\beta+\gamma=\pi$ then $\sin^2\alpha+\sin^2\beta-\sin^2\gamma$ is equal to.....

A. $2\sin\alpha.\sin\beta.\cos\gamma$

B. $4\sin\alpha\sin\beta.\sin\gamma$

C. $2\cos\alpha.\sin\gamma.\cos\beta$

D. $\cos^2\alpha+\cos^2\beta+\cos^2\gamma$

Answer: A

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16. IF $\alpha + \beta = \frac{\pi}{2}$ and $\gamma + \beta = \alpha$ then find tan α.

A. $2\tan\beta$

B. $2\tan\gamma + \tan\beta$

C. $2\tan\alpha$

D. None

Answer: B

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17. Find the value of the expression $\sqrt{3}\,\text{cosec}\,20^\circ - \sec 20^\circ$ =.....

A. $\frac{1}{4}$

B. 4

C. 3

D. 0

Answer: B

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18. IF $x^2 + y^2 = 1$ and $P = \left(3x - 4x^3\right)^2 + \left(3y - 4y^3\right)^2$ then find 'P'.

A. -1

B. 0

C. 1

D. None

Answer: C

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19. IF $\tan^2\theta = 2\tan^2\phi + 1$ then find the value of $\cos 2\theta + \sin^2\phi$.

A. 1

B. 2

C. 3

D. 0

Answer: D

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20. IF $y = \frac{\tan\left(\frac{\pi}{4} + \theta\right) + \tan\left(\frac{\pi}{4} - \theta\right)}{\tan\left(\frac{\pi}{4} + \theta\right) - \tan\left(\frac{\pi}{4} - \theta\right)}$ then find y.

A. $\cos ec2\theta$

B. $\sin 2\theta$

C. $\cos\theta$

D. 0

Answer: A

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21. From a ship mast-head 150m.high, the angle of depression of a boat is observed to be 45°. It's distance from the ship is.....

A. 150 m

B. 100 m

C. 95 m

D. 0

Answer: A

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22. From a point 30 mts from the foot of a tower, the angle of elevation of the top is 30°. The height of the tower is.....

A. 10m

B. $10\sqrt{3}$m

C. 15m

D. 19m

Answer: B

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23. An electrician wants to repair an electric connection on a pole of height 9 m. He needs to reach 2 m below the top of the pole to do repairing work. The distance between foot of the ladder and foot of the pole when the climbs it at an angle 60° with the ground is.....

A. 7m

B. $\frac{7}{\sqrt{3}}$m

C. 14 m

D. $\frac{14}{\sqrt{3}}$m

Answer: B

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24. A T.V. tower stands vertically on the side of a road. From a point on the other side directly opposite to the tower the angle of elevation of the top of tower is 60°. From another point 10 m away from the point, on the line joining the point of the foot of the tower, the angle of elevation of the top of the tower is 30°. THe width of the road is.....

A. 5m

B. $5\sqrt{3}$m

C. 10 m

D. $10\sqrt{3}$m

Answer: A

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25. From the top of a building, the angle of elevation of the top of a cell tower is 60° and the angle of depression to its foot is 45°. If distance of the building from the tower is 7m, then find the height of the tower.

A. 7m

B. $7\sqrt{3}$m

C. $7\left(\sqrt{3}+1\right)m$

D. None

Answer: D

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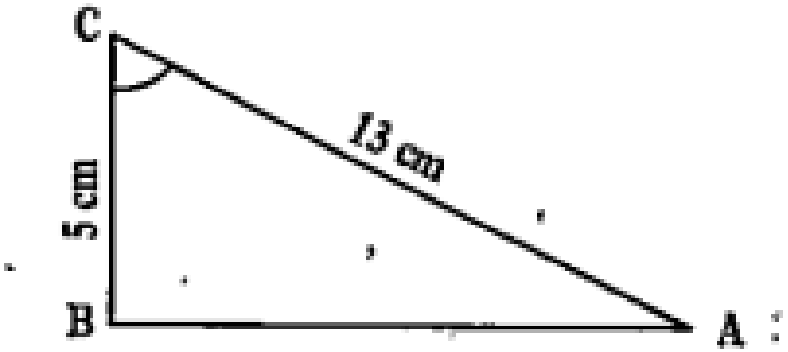
EXERCISE

1. Find tan C in the given triangle



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2. Express sec A and cos A in terms of sides of right angle triangle

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3. Express sec A and cos A in terms of sides of right angle triangle

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4. Discuss among your friends

Does $\sin x = \frac{4}{3}$ exists for some value of angle?

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5. Discuss among your friends

The value of sin A and cos A is always less than 1, Why?

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6. Discuss among your friends

tan A is product of tan and A

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7. Is $\frac{\sin A}{\cos A}$ equal to tan A ?

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8. IS $\frac{\cos A}{\sin A}$ equal to cot A ?

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9. If tan A $= \frac{3}{4}$, then find the other trigonometric ratio of angle A.

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10. In right angle triangle ABC, 8cm ,15 cm and 17 cm are the length of AB,BC and CA respectively , Then find $\sin A, \cos A$ and $\tan A$.

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11. The sides of a right angle triangle PQR are PQ = 7cm , PR =25 cm and $\angle Q = 90^\circ$ respectively , Then find tan P -tan R

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12. In a right angle triangle ABC with right angle at B, in in which a=24 units, b=25 units and $\angle BAC = \emptyset$. Then, find $\cos\emptyset$ and $\tan\emptyset$.

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13. If $\cos A = \frac{12}{13}$, then find $\sin A$ and $\tan A (A < 90^\circ)$

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14. If 3 tan A =4 ,then find sin A and cos A

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15. In $\triangle ABC$ and $\triangle XYZ$, if $\angle A$ and $\angle X$ are acute angles such that cos A = cos X then show that $\angle A = \angle X$.

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16. $\tan\theta = \frac{7}{8}$అయిన $(1+\sin\theta)\frac{1-\sin\theta}{1+\cos\theta}(1-\cos\theta)$=

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17. $\cot\theta = \frac{7}{8}$ అయిన $\frac{1+\sin\theta}{\cos\theta}$ లను కనుగొనుము.

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18. In a right angle triangle ABC, right angle is at B ,If tan $A = \sqrt{3}$, then find the value of

(i) `sin A cos C+ cos A sin C "

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19. In a right angle triangle ABC, right angle is at B if tan $A = \sqrt{3}$ then find the value of Sin A cos C + cos a sin c

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20. Find the values for tan 90°, $\cos ec 90^\circ$, $\sec 90^\circ$ and $\cot 90^\circ$

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21. Discuss with your friends about the following conditions:

What can you say about $\cos ec 0^\circ = \frac{1}{\sin 0^\circ}$? Is the defined ? Why ?

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22. Discuss with your friends about the following conditions:

What can you say about $\cot 0^\circ = \frac{1}{\tan 0^\circ}$ Is it defined ? Why ?

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23. Discuss with your friends about the following conditions:

$\sec 0^\circ = 1$Why?

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24. What can you say about the values of sin A and cos A, as the value of angle A increases from 0° to 90° ?

$A > B$, then $\sin A > \sin B$. Is it true?

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25. What can you say about the values of sin A and cos A, as the value of angle A increases from 0° to 90°?

If $A > B$, then $\cos A > \cos B$. Is it true?Discuss.

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26. If one of the sides and any other part (either an acute angle or any side) of a right angle triangle is known, the remeaning sides and angles of the triangle can be determined. Do you agree ? Example with an example.

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27. In ΔABC , right angle is at B,AB = 5cm and $\angle ACB = 30^\circ$ Determine the lengths of the sides BC and AC.

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28. A chord of a circle of radius 6cm is making an angle 60° at the centre.Find the length of the chord.

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29. sin (A-B) = $\frac{1}{2}$, cos (A+B) = $\frac{1}{2}$,`0^(0)B` అయిన A మరియు B విలువలు కనుక్కోండి.

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30. Evaluate the following

$\sin 45^\circ + \cos 45^\circ$

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31. Evaluate the following

$$\frac{\cos 45^\circ}{\sec 30^\circ + \operatorname{cosec} 60^\circ}$$

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32. Evaluate the following

$$\frac{\sin 30^\circ + \tan 45^\circ - \operatorname{cosec} 60^\circ}{\cot 45^\circ + \cos 60^\circ - \sec 30^\circ}$$

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33. Evaluate the following

$$2\tan^2 45^\circ + \cos^2 30^\circ - \sin^2 60^\circ$$

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34. Evaluate the following

$$\frac{\sec^2 60^\circ - \tan^2 60^\circ}{\sin^2 30^\circ + \cos^2 30^\circ}$$

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35. $\frac{2\tan 30^\circ}{1+\tan^2 45^\circ} =$

A. $\sin 60^\circ$

B. $\cos 60^\circ$

C. $\tan 30^\circ$

D. $\sin 30^\circ$

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36. $\frac{1-\tan^2 45^\circ}{1+\tan^2 45^\circ} =$

A. $\tan 90^\circ$

B. 1

C. $\sin 45^\circ$

D. 0

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37. $\frac{2\tan 30^\circ}{1-\tan^2 30^\circ} =$

A. $\tan 60^\circ$

B. $\sin 60^\circ$

C. $\tan 60^\circ$

D. $\sin 30^\circ$

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38. Is it right to say that $\cos(60^\circ + 30^\circ) = \cos 60^\circ \cos 30^\circ - \sin 60^\circ \sin 30^\circ$

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39. In right angle triangle ΔPQR ,right angle at Q,PQ = 6cm and $\angle RPQ = 60^\circ$ Determine the lengths of QR and PR.

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40. In ΔXYZ, right angle is at Y,YZ =x, and XZ =2x Then determine $\angle YXZ$ and $\angle YZX$.

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41. Is it right to say that $\sin(A+B)=\sin A+\sin B$? Justify your answer.

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42. Check and discuss the above relations in the case of angles between 0° and 90° , whether they hold for these angles or not? $\sin(90^\circ-A)=\cos A$

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43. Check and discuss the below relations in the case of angles between 0^o and 90^o , whether they hold for these angles or not? $\cos(90^\circ-A)=\sin A$

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44. Check and discuss the below relations in the case of angles between 0^o and 90^o , whether they hold for these angles or not? `tan (90- A) = cot A

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45. Check and discuss the below relations in the case of angles between 0^o and 90^o , whether they hold for these angles or not? $\cot(90 - A) = \tan A$

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46. Check and discuss the above relations in the case of angles between 0^o and 90^o , whether they hold for these angles or not? $\sec(90^\circ - A) = \cos ecA$

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47. Check and discuss the above relations in the case of angles between 0^o and 90^o , whether they hold for these angles or not? $\cos ec(90^\circ - A) = \sec A$

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48. Evaluate $\frac{\sec 35^\circ}{\cos ec 55^\circ}$

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49. If $\cos 7A = \sin(A - 6^\circ)$, where 7A is an acute angle ,find the value of A .

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50. If $\sin A = \cos B,$ then prove that A+B $= 90^\circ$

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51. Express $\sin 81^\circ + \tan 81^\circ$ in terms of trigonometric ratio of angles between 0° and 45°

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52. If A , B and C are interior angles of triangle ABC ,then show that $\sin\left(\frac{B+C}{2}\right) = \frac{\cos(A)}{2}$

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53. Evaluate

$$\frac{\tan 36^\circ}{\cot 54^\circ}$$

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54. $\cos 12^0 - \sin 78^0 =$

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55. Evaluate

$\cos ec31^\circ - \sec 59^\circ$

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56. Evaluate $\sin 15^\circ . \sec 75^\circ .$

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57. Evaluate

$\tan 26^\circ \tan 64^\circ$

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58. Show that

$\tan 48^\circ \tan 16^\circ \tan 42^\circ \tan 74^\circ = 1$

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59. Show that

$\cos 36^\circ \cos 54^\circ - \sin 36^\circ \sin 54^\circ = 0$

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60. If tan 2A $= \cot(A - 18^\circ)$ where 2A is an acute angle , Find the value of A .

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61. If tan A $= \cot B$ where A and B are acute angles prove that $A + B = 90^\circ$

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62. If A , B and C are interior angles of a triangle ABC, then show that $\tan\left(\frac{A+B}{2}\right) = \cot C/(2)$

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63. Expression $\sin 75^\circ + \cos 65^\circ$ in terms of trigonometric ratios of angles between 0° and 45°

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64. For which value of an acute angle θ, $(i)\frac{\cos\theta}{1-\sin\theta}+\frac{\cos\theta}{1+\sin\theta}=4$is true ?

For which value of $0^\circ \leq \theta \leq 90^\circ$, above equation is not defined?

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65. Are these identities true only for $0^\circ \leq A \leq 90^\circ$? If not ,for which other values of A they are true ?

$\sec^2 A - \tan^2 A = 1$ $\cos ec^2 A - \cot^2 A = 1$

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66. Are these identities true only for $0^\circ \leq A \leq 90^\circ$? If not ,for which other values of A they are true ?

$\sec^2 A - \tan^2 A = 1$ $\cos ec^2 A - \cot^2 A = 1$

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67. If $\sin C = \frac{15}{17}$, then find $\cos C$,

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68. If $\tan x = \frac{5}{12}$, then find sec x.

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69. If $\cos ec\theta = \frac{25}{7}$, then find $\cot \theta$

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70. Evaluate the following and justify your answer.

(i) $\frac{\sin^2 15^\circ + \sin^2 75^\circ}{\cos^2 36^\circ + \cos^2 54^\circ}$

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71. Find $\sin 5^\circ \cos 85^\circ + \cos 5^\circ \sin 85^\circ$

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72. Find $\sec 16^\circ \cos ec 74^\circ - \cot 74^\circ \tan 16^\circ$

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73. Show that $\cot\theta + \tan\theta = \sec\theta \cos ec\theta$

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74. Show that $\tan^2\theta + \tan^4\theta = \sec^4\theta - \sec^2\theta$

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75. Prove that $\sqrt{\frac{1+\cos\theta}{1-\cos\theta}} = \cos ec\theta + \cot\theta.\ (0^\circ < \theta < 90^\circ)$

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76. Evaluate the following

$(1+\tan\theta+\sec\theta)(1+\cot\theta-\cos ec\theta)$

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77. $(\sin\theta+\cos\theta)^2 + (\sin\theta-\cos\theta)^2 =$

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78. $\left(\sec^2\theta - 1\right)\left(\cos ec^2\theta - 1\right) =$

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79. Show that $(\cos ec\theta - \cot\theta)^2 = \dfrac{1-\cos\theta}{1+\cos\theta}$

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80. $\sqrt{\dfrac{1+\sin A}{1-\sin A}} = \sec A + \tan A$ చూపండి.

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81. Show that $\dfrac{1-\tan^2 A}{\cot^2 A - 1} = \tan^2 A$

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82. Show that $\dfrac{1}{\cos\emptyset} - \cos\emptyset = \tan\emptyset \cdot \sin\emptyset (0^o < \emptyset < 90^o)$

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83. Simplify sec A $(1-\sin A)(\sec A+\tan A)$

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84. Prove that

$(\sin A+\cos ecA)^2+(\cos A+\sec A)^2=7+\tan^2 A+\cot^2 A.$

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85. Simplify $(1-\cos\theta)(1+\cos\theta)\left(1+\cot^2\theta\right).$

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86. Simplify $(1-\cos\theta)(1+\cos\theta)\left(1+\cot^2\theta\right).$

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87. If $\sec\theta + \tan\theta = p,$ then what is the value of $\sec\theta - \tan\theta$?

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88. If $\cos ec\theta + \cot\theta = k,$ then prove that $\cos\theta = \frac{k^2 - 1}{k^2 + 1}$

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89. Prove that $\frac{\cot\theta - \cos\theta}{\cot\theta + \cos\theta} = \frac{\cos ec\theta - 1}{\cos ec\theta + 1}$

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90. Prove that $\frac{\sin\theta - \cos\theta + 1}{\sin\theta + \cos\theta - 1} = \frac{1}{\sec\theta - \tan\theta}$ [use the identity $\sec^2\theta = 1 + \tan^2\theta$]

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91. Prove that $(\cos ecA - \sin A)(\sec A - \cos A) = \dfrac{1}{\tan A + \cot A}$

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92. Prove that $\dfrac{1 + \sec A}{\sec A} = \dfrac{\sin^2 A}{1 - \cos A}$

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93. Show that $\left(\dfrac{1 + \tan^2 A}{1 + \cot^2 A}\right) = \left(\dfrac{1 + \tan}{1 - \cot A}\right)^2 = \tan^2 A$

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94. Prove that $\dfrac{(\sec A - 1)}{(\sec A + 1)} = \left(\dfrac{1 - \cos A}{(1 + \cos A)}\right)$

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95. $\tan^2\theta - \frac{1}{\cos^2\theta}$ =-1 అని చూపండి.

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96. Explain the meaning of cos A.

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97. If $\tan\emptyset = \sqrt{3}$ ($\emptyset$ is acute angle) then find the value of $1 + \cos\emptyset$.

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98. Evaluate $\left(\frac{\sin 58^o}{\cos 32^o}\right) + \left(\frac{\tan 42^o}{\cot 48^o}\right)$

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99. $\sin A = \frac{1}{\sqrt{2}}$ tan B =1 sin (A + B) =

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100. Express $\cos\emptyset$ in terms of $\tan\emptyset$.

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101. If $\cos\emptyset = \frac{1}{\sqrt{2}}$, then find the value of $4 + \cot\emptyset$.

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102. Is it correct to say that $\sin\emptyset = \cos(90 - \emptyset)$? why?

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103. Find the value of $\tan 2A$ if $\cos 3A = \sin 45^o$.

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104. In a right triangle ABC, right angled at C in which AB = 13cm, BC = 5cm, determine the value of $\cos^2 B + \sin^2 A$.

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105. $\cos ec39^0$, $\sec 51^0 - \tan 51^0$. $\cot 39^0$ విలువను గుణించండి.

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106. Ravi says "the value of $\tan 0^o \tan 1^o \tan 2^o \ldots\ldots \tan 89^o$ is zero'. Do you agree with Ravi? Give reason.

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107. Prove that $4\tan^2 45^o - \cos ec^2 30^o + \cos^2 30^o = \frac{3}{4}$

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108. Using the figure given of $\triangle ABC$ prove that $\sin^2\emptyset + \cos^2\emptyset = 1$

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109. Show that $\sqrt{\sec^2\emptyset + \cos ec^2\emptyset} = \tan\emptyset + \cot\emptyset$

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110. Prove that $\sqrt{\frac{1-\sin\emptyset}{1+\sin\emptyset}} = \sec\emptyset - \tan\emptyset$

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111. If $\sin(A-B)=\frac{1}{2}, \cos(A+B)=\frac{1}{2}$, where $0^\circ < A+B < 90^\circ$ and $A > B$ find A and B

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112. If $x = a\sec\emptyset$ and $y = b\tan\emptyset$ then prove that $\frac{x^2}{a^2}-\frac{y^2}{b^2}=1$

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113. Prove that $\sqrt{\frac{\cos ecA+1}{\cos ecA-1}}-\sqrt{\frac{\cos ecA-1}{\cos ecA+1}}=2\tan A$

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114. If A, B, C are interior angle of $\triangle ABC$ then show that $\sin\left(\frac{A+B}{2}\right)+\cos\left(\frac{A+B}{2}\right)=\cos\left(\frac{C}{2}\right)+\sin\left(\frac{C}{2}\right)$

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115. What can you say about the values of sin A and cos A as the measure of an angle A increases from 0^o to 90^o?

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116. Find measure of the angle A and B, if $\cos(A-B)=\frac{\sqrt{3}}{2}$ and $\sin(A+B)=\frac{\sqrt{3}}{2}$

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117. $\tan^2 60^0+\cot^2 30^0/\sin^2 30^0+\cos^2 60^0$ విలువను కనుగొనుము.

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118. Prove that $\frac{1}{\sin^2\emptyset}-\cot^2\emptyset=1$

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119. If

$\cos ec(A+B)=1$ and $\cot(A-B)=\sqrt{3}, 0^o<A+B<90^o, A>B$

then find A and B.

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120. Find the value of $\left(\frac{\sec 15^o}{\cos ec75^o}\right)+\left(\frac{\sin 72^o}{\cos 18^o}\right)-\left(\frac{\tan 33^o}{\cot 57^o}\right)$

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121. If $\cot\emptyset=\frac{9}{12}$ then find the value of $\frac{\sin\emptyset+\cos\emptyset}{\sin\emptyset-\cos\emptyset}+\frac{\sec\emptyset+\cos ec\emptyset}{\sec\emptyset-\cos ec\emptyset}$

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122. Evaluate $\frac{\tan^2 60 + 4\cos^2 45 + 3\sec^2 30 + 5\cos^2 90}{\cos ec30 + \sec 60 - \cot^2 30}$

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123. If $\frac{\sin\emptyset}{1-\cos\emptyset} + \frac{\sin\emptyset}{1+\cos\emptyset} = 4(0^o < \emptyset < 90^o)$ then find the value of $\emptyset$

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124. Prove that $\left(1+\tan^2\emptyset\right) + \left(1 + \frac{1}{\tan^2\emptyset}\right) = \frac{1}{\sin^2\emptyset - \sin^4\emptyset}$

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125. If $\cot A = \frac{5}{12}$ then $\sin A + \cos A$ = ...

A. $\frac{17}{13}$

B. $\frac{12}{13}$

C. $\frac{5}{13}$

D. $\frac{20}{13}$

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126. Which of the following is not possible value for sin x .....

A. $\frac{3}{4}$

B. $\frac{3}{5}$

C. $\frac{4}{5}$

D. $\frac{5}{4}$

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127. Which of the following in NOT defined?

A. $\tan 0^\circ$

B. $\tan 90^o$

C. $\cot 90^\circ$

D. $\sec 0^\circ$

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128. If $\sin A = \frac{24}{25}$ then $\cot A$

A. $\frac{25}{24}$

B. $\frac{7}{24}$

C. $\frac{24}{7}$

D. $\frac{25}{7}$

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129. If $\sin\theta = \cos\theta\ (0^0 < \theta < 90^0)$ then $\tan\theta + \cot\theta$ = ...`

A. $2\sqrt{3}$

B. $\frac{2}{\sqrt{3}}$

C. 2

D. 1

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130. If $\sec\theta + \tan\theta = 3$ then $\sec\theta - \tan\theta$ = ...

A. $\frac{1}{3}$

B. $\frac{2}{3}$

C. $\frac{4}{3}$

D. $\frac{5}{3}$

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131. In $\triangle ABC AB = c, BC = a, AC = b$ and $\angle BAC = \theta$ then which is not the area of $\triangle ABC$ is ..... (θ is acute).

A. $\frac{1}{2}ab\sin\theta$

B. $\frac{1}{2}ca\sin\theta$

C. $\frac{1}{2}bc\sin\theta$

D. $\frac{1}{2}b^2\sin\theta$

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132. The value of $\tan\theta$ in terms of $\cos ec\theta$ is.....

A. $\frac{1}{\sqrt{\cos ec^2\theta - 1}}$

B. $\frac{\cos ec\theta}{\sqrt{\cos ec^2 - 1}}$

C. $\frac{2\cos ec\theta}{\sqrt{\cos ec^2 - 1}}$

D. $\frac{2}{\sqrt{\cos ec^2 - 1}}$

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133. Observe the following: (I) $\sin^2 20^\circ + \sin^2 70^\circ = 1$ (II) $\log_2(\sin 90^\circ) = 1$Which one is CORRECT?

A. (i) only

B. (II) only

C. Both (I) and (II)

D. Neither (I) nor (II)

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134. $\tan 36^\circ . \tan 54^\circ + \sin 30^\circ =$ .....

A. 44230

B. 44228

C. 3/2

D. 44257

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135. If $\sin A = \frac{24}{25}$, then $\sec A$=.....

A. $\frac{7}{25}$

B. $\frac{25}{7}$

C. $\frac{24}{7}$

D. $\frac{7}{24}$

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136. Which one of the following is NOT defined?

A. $\sin 90^\circ$

B. $\cos 0^\circ$

C. $\sec 90^\circ$

D. $\cos 90^\circ$

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137. $\sqrt{1-\cos^2 A/1+\cot^2 A}$

A. $\sin A$

B. $\sqrt{\sin A}$

C. $\sin^2 A$

D. $\sin^4 A$

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138. If $\cot\theta - \operatorname{cosec}\theta = p$ then $\cot\theta + \operatorname{cosec}\theta$=.....

A. p

B. -p

C. $\frac{1}{p}$

D. $-\left(\frac{1}{p}\right)$

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139. $\tan\theta$ in terms of $\cos\theta$ is.....

A. $\frac{\sqrt{1+\cos^2\theta}}{\cos\theta}$

B. $\frac{\cos\theta}{\sqrt{1+\cos^2\theta}}$

C. $\frac{\sqrt{1-\cos^2\theta}}{\cos\theta}$

D. $\frac{\cos\theta}{\sqrt{1-\cos^2\theta}}$

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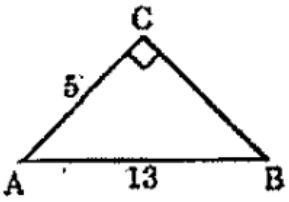
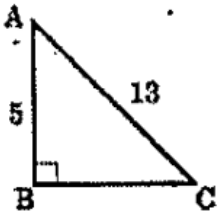
140. Chose the correct figure for which $\sin A = \frac{5}{13}$

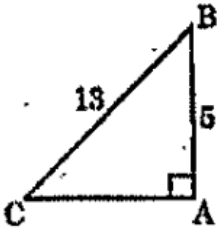
A)



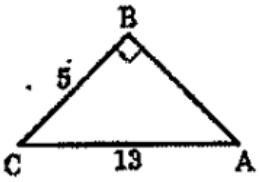
B)



C)



D)



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141. $\sec\theta$=

A. $\sqrt{1-\cos^2\theta}$

B. $\sqrt{1-\tan^2\theta}$

C. $\tan^2\theta-1$

D. $\sqrt{\dfrac{1}{1-\sin^2\theta}}$

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142. If $\sec\theta+\tan\theta=x$ then $\sec\theta$=

A. $\dfrac{x^2+1}{x}$

B. $\dfrac{x^2+1}{2x}$

C. $\dfrac{x^2-1}{2x}$

D. $\dfrac{x^2-1}{x}$

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143. $2 - 2\sin^2 60^\circ =$

A. $\sin 60^\circ$

B. $\tan 60^\circ$

C. $\cos 60^\circ$

D. $\sec 60^\circ$

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144. The value of $\cos 15^\circ \times \cos 45^\circ \times 2\cos ec75^\circ$ is

A. $\frac{2}{\sqrt{3}}$

B. $\frac{\sqrt{3}}{2}$

C. $\frac{1}{\sqrt{3}}$

D. $\sqrt{2}$

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145. The value of $\sin^2 60^\circ - \sin^2 30^\circ$

A. $\frac{1}{4}$

B. $\frac{1}{2}$

C. $\frac{3}{4}$

D. $-\left(\frac{1}{2}\right)$

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146. If $\sin\theta = \frac{a}{b}$, then $\tan\theta =$

A. $\frac{b}{\sqrt{a^2+b^2}}$

B. $\frac{b}{\sqrt{a^2-b^2}}$

C. $\frac{a}{\sqrt{a^2-b^2}}$

D. $\frac{a}{\sqrt{b^2-a^2}}$

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147. $\cos^2\theta + \sin^2\theta$is

A. 0

B. 1

C. $\frac{1}{2}$

D. θ^2

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148. If $\sin\theta = \cos\theta$ then the value of $2\tan\theta + \cos^2\theta$ is

A. 1

B. $\frac{1}{2}$

C. $\frac{5}{2}$

D. $\frac{2}{5}$

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149. If $\cos ec\theta = 2$ and $\cot\theta = (\sqrt{3})p$ where $\theta$is an acute angle, then the value of 'p' is

A. 2

B. 1

C. 0

D. $\sqrt{3}$

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150. If $\tan\theta + \sec\theta = 8$ then $\sec\theta - \tan\theta$ is

A. 8

B. $\frac{1}{8}$

C. 6

D. 64

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151. $\left(\frac{11}{\cot^2\theta} - \frac{11}{\cos^2\theta}\right)$ విలువ

A. 11

B. 0

C. $\frac{1}{11}$

D. -11

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152. If $\sec 2A = \cos ec(A - 27)$, when 2A is an acute angle, then the measure of $\angle A$ is

A. 35°

B. 37°

C. 39°

D. 21°

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153. $1 - \sec^2 A / \cos ec^2 A - 1 =$

A. $-\tan^2 A$

B. $-\tan^4 A$

C. 1

D. $-\sec^2 A$

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154. The maximum value of $\sin\theta$ is

A. $\frac{1}{2}$

B. $\frac{\sqrt{3}}{2}$

C. 1

D. $\frac{1}{\sqrt{2}}$

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155. If $\tan\theta = \frac{7}{8}$, the value of $\frac{(1+\sin\theta)(1-\sin\theta)}{(1+\cos\theta)(1-\cos\theta)} =$

A. $\frac{7}{8}$

B. $\frac{8}{7}$

C. $\frac{64}{49}$

D. $\frac{49}{64}$

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156. If $5\tan\theta = 4$, then the value of $\frac{5\sin\theta - 3\cos\theta}{5\sin\theta + 3\cos\theta}$ is

A. 0

B. 1

C. $\frac{1}{7}$

D. $\frac{2}{7}$

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157. $\sec\theta = 3k$మరియు $\tan\theta = \frac{3}{k}$అయిన $\left(K^2 - \frac{1}{k^2}\right)$విలువ

A. 9

B. 3

C. $\frac{1}{9}$

D. 1

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158. $\frac{\sin\theta}{1+\cos\theta}$ is=

A. $\frac{1-\cos\theta}{1+\cos\theta}$

B. $\frac{1-\sin\theta}{\cos\theta}$

C. $\frac{1-\cos\theta}{\sin\theta}$

D. $\frac{\cos\theta}{1-\sin\theta}$

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159. If P, Q and R are interior angle of a $\triangle PQR$, then $\tan\left(\frac{P+Q}{2}\right)$ equals

A. $\sin\left(\frac{R}{2}\right)$

B. $\cos\left(\frac{R}{2}\right)$

C. $\cot\left(\frac{R}{2}\right)$

D. $\tan\left(\frac{R}{2}\right)$

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160. The value of $\frac{2\tan 30^\circ}{1+\tan^2 30^\circ} =$

A. $\sin 60^\circ$

B. $\cos 60^\circ$

C. $\tan 60^\circ$

D. $\sin 30^\circ$

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161. If $\sin(x-20)^\circ = \cos(3x-10)^\circ$, then 'x' is

A. 60

B. 30

C. 45

D. 35.5

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162. Maximum value of $\frac{1}{\sec\theta}, 0^\circ \leq \theta \leq 90^\circ$ is

A. 1

B. 2

C. $\frac{1}{2}$

D. $\frac{1}{\sqrt{2}}$

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163. The value of $\cos^2 17^\circ - \sin^2 73^\circ$ is

A. 1

B. $\frac{1}{3}$

C. 0

D. -1

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164. If $A = 30^\circ$, then $\sin 2A$ equals

A. $\frac{1}{2}$

B. $\frac{\sqrt{3}}{2}$

C. $\frac{1}{\sqrt{2}}$

D. 1

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165. The value of $\sin 45^\circ + \cos 45^\circ$ is

A. $\frac{1}{\sqrt{2}}$

B. $\sqrt{2}$

C. $\frac{\sqrt{3}}{2}$

D. 1

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166. In a right angled $\triangle ABC$ right angle at 'C' if $\tan A = \frac{8}{15}$, then the value of $\cos ec^2 A - 1$ is

A. 0

B. $\frac{64}{225}$

C. $\frac{225}{64}$

D. $\frac{289}{64}$

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167. If $\frac{1}{2}\tan^2 45^\circ = \sin^2 A$ and 'A' is acute then the value of A is

A. 60°

B. 45°

C. 30°

D. 15°

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168. Match the following :

List - I		List - II	
(1)	$\cot\left(\frac{\pi}{4}+\theta\right).\cot\left(\frac{\pi}{4}-\theta\right)$	(a)	0
(2)	$\sin(45^\circ+\theta)-\cos(45^\circ-\theta)$	(b)	$\tan 56^\circ$
(3)	$\frac{\cos 11^\circ+\sin 11^\circ}{\cos 11^\circ-\sin 11^\circ}$	(c)	$\frac{\sqrt{3}}{2}$
(4)	$\sin^2 75^\circ-\sin^2 15^\circ$	(d)	1

A. $2\sin\theta$

B. 0

C. 1

D. $2\cos\theta$

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169. If $\tan\theta=1$ then value of $\frac{5\sin\theta+4\cos\theta}{5\sin\theta-4\cos\theta}$ is

A. 9

B. -9

C. 1

D. 0

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170. If $\cos 2\theta = \sin 4\theta$, here 2θ and 4θ are acute angles, then the value of θ is

A. 60°

B. 45°

C. 15°

D. 30°

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171. $\tan\theta$ is not defined when θ is

A. 90°

B. 60°

C. 30°

D. 0°

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172. If $\sin x = \cos x, 0 \leq x \leq 90^\circ$, then x =

A. 30°

B. 90°

C. 0°

D. 45°

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173. $2\sin\theta = \sin^2\theta$ is true for the value of θ is

A. 0°

B. 45°

C. 30°

D. 60°

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174. If $\sin 45^\circ \cdot \cos 45^\circ + \cos 60^\circ = \tan\theta$ then the value of θ is

A. 0°

B. 30°

C. 45°

D. 60°

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175. In $\triangle ABC$ right angle at B, AB=x,BC=y,AC=r$then$ $\cos\theta$=

A. $\frac{x}{r}$

B. $\frac{y}{r}$

C. $\frac{r}{x}$

D. $\frac{y}{x}$

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176. In $\triangle ABC$ right angle at B, AB=x,BC=y,AC=r$then$ $\tan\theta$=

A. $\frac{x}{y}$

B. $\frac{y}{x}$

C. $\frac{r}{x}$

D. $\frac{r}{y}$

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177. $\sin\theta \cdot \cos ec\theta + \cos\theta \cdot \sec\theta + \tan\theta \cdot \cot\theta =$

A. 3

B. 1

C. $\sin\theta.\ \cos\theta.\ \tan\theta$

D. None

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178. If $\sin\theta \cdot \cos ec\theta = x$, then x =

A. 0

B. 1

C. $\frac{1}{\sin\theta}$

D. $\frac{1}{\cos ec\theta}$

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179. $\sin\theta = \frac{a}{b}$ అయిన $\cos\theta$=

A. $\frac{\sqrt{a^2 - b^2}}{b}$

B. $\frac{b}{a}$

C. $\frac{\sqrt{b^2 - a^2}}{b}$

D. $b - \frac{a}{b}$

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180. $\sin\theta = \frac{12}{13}$ అయిన $\tan\theta$=

A. $\frac{13}{5}$

B. $\frac{5}{12}$

C. $\frac{13}{12}$

D. $\frac{12}{5}$

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181. $\sin\theta.\sec\theta =$

A. $\tan\theta$

B. $\cos ec\theta$

C. $\cot\theta$

D. $\sin\theta.\cos\theta$

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182. $\sqrt{1+\cot^2\theta}$=

A. $\cos ec^2\theta$

B. $1+\cot\theta$

C. $\sec\theta$

D. $\cos ec\theta$

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183. If $\sec\theta=\frac{13}{12}$, then $\sin\theta=$

A. $\frac{5}{13}$

B. $\frac{5}{12}$

C. $\frac{12}{5}$

D. $\frac{12}{13}$

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184. $\tan 135^\circ$

A. $-\frac{1}{\sqrt{3}}$

B. $\sqrt{3}$

C. $-\sqrt{3}$

D. -1

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185. $\sqrt{1+\sin A}.\sqrt{1-\sin A}$=

A. $\sin A$

B. $1-\sin^2 A$

C. $\cos A$

D. 1

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186. $\sin(90+\theta)$=

A. $\cos\theta$

B. $-\cos\theta$

C. $\sin\theta$

D. $-\sin\theta$

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187. $\tan^2 30^0 + 2\cot^{260^0}$ విలువ

A. $\frac{2}{3}$

B. 2

C. 1

D. $\frac{4}{3}$

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188. $\sin^2 75^\circ + \cos^2 75^\circ =$

A. 75

B. 150

C. $\tan^2 75^\circ$

D. 1

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189. $\sin^4\theta - \cos^4\theta =$

A. 1

B. $\cos^2\theta - \sin^2\theta$

C. $2\sin^2\theta - 1$

D. $2\sin^2\theta$

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190. $\tan\theta = \frac{1}{\sqrt{3}}$ అయినచో $\cos\theta$=

A. $\frac{1}{2}$

B. $\frac{\sqrt{3}}{2}$

C. $\frac{2}{\sqrt{3}}$

D. $\sqrt{3}$

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191. $(1+\tan\theta)^2$ =

A. $\sec^2\theta$

B. $\sec^2\theta + 2\tan\theta$

C. $\sec^2\theta + \tan^2\theta$

D. $\sec^2\theta + \tan\theta$

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192. Expressing $\tan\theta$, interms of $\sec\theta$.

A. $\sqrt{\sec}^2\theta - \frac{1}{\sec\theta}$

B. $\frac{\sec\theta}{\sec\theta^2\theta} - 1$

C. $\frac{1}{\sqrt{\sec}^2}\theta - 1$

D. $\sqrt{1} - \sqrt{\sec}^2\theta$

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193. 5 sin A = 3 అయిన $\sec^2 A - \tan^2 A$=

A. $\frac{9}{25}$

B. 0

C. $\frac{25}{9}$

D. 1

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194. Evaluate the following

$(\sin\theta + \cos\theta)^2 + (\sin\theta - \cos\theta)^2$

A. $2\sin^2\theta + \cos^2\theta$

B. 2

C. $2\sin^2\theta + 4\cos^2\theta$

D. $2\sin^2\theta$

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195. $\cos\theta = \frac{\sqrt{3}}{2}$ మరియు θ అల్పకోణము అయిన $4\sin^2\theta + \tan^2\theta$ విలువ

A. $\frac{3}{4}$

B. 1

C. $\frac{4}{3}$

D. $\frac{5}{3}$

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196. sin(A-B) = 1/2, cos(A-B) = 1/2 అయిన A =

A. 60°

B. 15°

C. 30°

D. 45°

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197. $\cos 0^0 + \sin 90^0 + \sqrt{2}\sin 45^0$ విలువ

A. 0

B. $2 + \sqrt{2}$

C. 4

D. 3

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198. $3\sin^2 45^0 + \cos^2 60^0$ విలువ

A. 2

B. 4

C. $3\frac{1}{2}$

D. 1½

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199. $\sin(-\theta)$=

A. $\sin\theta$

B. $\cos\theta$

C. $-\cos\theta$

D. $-\sin\theta$

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200. Value of $\cos 240^\circ =$

A. $\frac{1}{2}$

B. $-\frac{\sqrt{3}}{2}$

C. $-\frac{1}{2}$

D. None

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201. $\tan\theta + \cot\theta = 2$ అయినచో $\tan^2\theta + \cot^2\theta$=

A. 4

B. 2

C. 6

D. 1

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202. $\tan 60^0 - \tan 30^0$ విలువ

A. $\frac{1}{\sqrt{3}} - \sqrt{3}$

B. $\frac{1}{\sqrt{3}}$

C. $\frac{2}{\sqrt{3}} / 3$

D. $\frac{\sqrt{3}}{3}$

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203. $\sin\theta = \cos\theta\,\theta$

A. 30°

B. 45°

C. 60°

D. 90^2

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204. $\left(1+\tan^2 60^0\right)^2$=

A. 1

B. 2

C. 4

D. 16

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205. If $\sin(A-B)=\frac{1}{2}, \cos(A+B)=\frac{1}{2}$, where $0^\circ < A+B < 90^\circ$ and $A > B$ find A and B

A. 15°

B. 30°

C. 45°

D. 60°

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206. $\cos(270^\circ - \theta) =$

A. $-\cos\theta$

B. $-\sin\theta$

C. $\sin\theta$

D. $\cos\theta$

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207. $0^0 \leq \theta \leq 90^0$ అయిన $\sin\theta + \cos\theta$గరిష్ట విలువ

A. $\sqrt{2}$

B. $\frac{1}{\sqrt{2}}$

C. 1

D. 2

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208. $\alpha + \beta = 90^0$ మరియు $\alpha = 2\beta$అయినఁ$\cos^2\alpha + \sin^2\beta$=

A. 1

B. 0

C. $\frac{1}{2}$

D. 2

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209. In right angle $\triangle ABC, \angle B = 90^\circ$, $\tan c = \frac{5}{12}$ then the length of hypotenuse is .

A. 16

B. 13

C. 21

D. 17

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210. $\tan\theta = \frac{1}{\sqrt{3}}$ అయిన $7\sin^2\theta + 3\cos^2\theta =$

A. 1

B. 2

C. 3

D. 4

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211. $\cos^2 0^\circ + \cos^2 60^\circ =$

A. $\frac{5}{4}$

B. $\frac{2}{\sqrt{3}}$

C. $\frac{1}{\sqrt{2}}$

D. $\frac{\sqrt{3}}{2}$

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212. $\sin(270^\circ + \theta) =$

A. $-\cos\theta$

B. $\cos\theta$

C. $-\sin\theta$

D. $\sin\theta$

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213. If A,B are acute angles , $\sin(A-B)=\frac{1}{2}, \sin A=\frac{1}{2}$, then B=

A. $\frac{\pi}{3}$

B. $\frac{\pi}{5}$

C. $\frac{\pi}{6}$

D. $\frac{\pi}{12}$

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214. In $\Delta ABC, \quad \text{if} \quad a = 2, b = 3, c = 4$ then cos A =

A. $\frac{3}{5}$

B. $\frac{3}{4}$

C. $\frac{5}{3}$

D. $\frac{4}{5}$

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215. ΔABC లో sin C = 3/5 అయిన cos A =

A. $\frac{3}{5}$

B. $\frac{4}{5}$

C. $\frac{5}{4}$

D. $\frac{5}{3}$

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216. $\sec A.\ Sqrt\left(1-\sin^2 A\right)+$

A. $\cos A$

B. $\sec A$

C. 0

D. 1

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217. $\cot(270^\circ - \theta) =$

A. $-\tan\theta$

B. $\tan\theta$

C. $\cot\theta$

D. $-\cot\theta$

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218. $\frac{\sin 18^0}{\cos 72^0} =$

A. 1

B. $\frac{1}{4}$

C. 0

D. ∞

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219. If pi $< \theta < \frac{3\pi}{2}$ 'thenθ lies in

A. First quadrant

B. Second quadrant

C. Third quadrant

D. Fourth quadrant

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220. $\sin\theta.\cos\theta = K$అయిన $\sin\theta + \cos\theta$=

A. k^2

B. $k^2 - 1$

C. $\sqrt{2}k^2 - 1$

D. $\sqrt{1} + 2k$

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221. $\tan^2 60^0 + 2\tan^2 45^0 = x\tan 45^0$ అయిన x=

A. 0

B. 5

C. 1

D. 2

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222. $\sin^3\theta\cos\theta + \cos^3\theta.\sin\theta$ =

A. $\sin\theta + \cos\theta$

B. $\sin\theta\cos\theta$

C. $\sin\theta$

D. $\cos\theta$

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223. $\frac{\sqrt{1+\tan^2\theta}}{\sqrt{1+\cot^2\theta}}=$

A. $\sin\theta$

B. $\cos\theta$

C. $\tan\theta$

D. $\cot\theta$

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224. $\sin^2 47^\circ + \sin^2 43^\circ =$

A. 0

B. ∞

C. 1

D. Cannot be detemined

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225. $\sec(360^\circ - \theta) =$

A. $\cos\theta$

B. $\sec\theta$

C. $\cos ec\theta$

D. $\cot\theta$

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226. $\sin 240^0$=

A. $\frac{1}{\sqrt{2}}$

B. $\frac{2}{\sqrt{3}}$

C. $-\frac{\sqrt{3}}{2}$

D. $\frac{\sqrt{3}}{2}$

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227. If $\sin\theta + \cos\theta = \sqrt{2}\cos A$ then $\theta =$

A. 0°

B. 30°

C. 45°

D. 60°

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228. $\left(1+\cot^2 45^0\right)^2$=

A. 4

B. 2

C. 1

D. $\sqrt{2}$

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229. $1-\tan^2 30^0 / 1+\tan^2 30^0$=

A. $\frac{1}{2}$

B. 1

C. 0

D. 2

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230. $\cos ec^2\theta / \cot\theta - \cot\theta =$

A. $\cot\theta$

B. $\cos ec\theta$

C. $\sec\theta$

D. $\tan\theta$

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231. If the following which are in geometric progression ?

A. $\sin 30^\circ, \sin 45^\circ, \sin 60^\circ$

B. $\sec 30^\circ, \sec 45^\circ, \sec 60^\circ$

C. $\tan 30^\circ, \tan 45^\circ, \tan 60^\circ$

D. $\cos 30^\circ, \cos 45^\circ, \cos 60^\circ$

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232. $\sqrt{(\sec x + \tan x)/\sec x - \tan x)}$=

A. $\sec x = \tan x$

B. $\sec x - \tan x$

C. $2\tan x$

D. $2\sec x$

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233. $\frac{1}{\sec^2 A} + \frac{1}{\cos e} c^2 A =$

A. 2

B. 1

C. $\tan^2 A + \cos^2 A$

D. 0

Watch Video Solution

234. $4\sin 30^0 . \sec 60^0 = x\tan 45^0$ అయిన x=

A. 0

B. 1

C. 3

D. 4

Watch Video Solution

235. $\sin 60^0 \cos 30^0 + \cos 60^0 . \sin 30^0$ విలువ

A. $\frac{1}{2}$

B. 1

C. $\frac{\sqrt{3}}{2}$

D. $\frac{2}{\sqrt{3}}$

Watch Video Solution

236. $\cos 60^0 . \cos 30^0 + \sin 60^0 . \sin 30^0$ విలువ

A. $\frac{\sqrt{3}}{2}$

B. $\frac{1}{2}$

C. 1

D. $\frac{2}{\sqrt{3}}$

Watch Video Solution

237. If $\sin(A+B)=\frac{\sqrt{3}}{2}, \cos B=\frac{\sqrt{3}}{2}$ value of A is

A. 45°

B. 60°

C. 30°

D. 90°

Watch Video Solution

238. $\frac{\tan 45^\circ}{\cos ec 30^\circ} + \frac{\sec 60^\circ}{\cot 45^\circ} =$

A. $1^{\frac{1}{2}}$

B. 1

C. 2

D. $\frac{2^1}{2}$

Watch Video Solution

239. $\cos(A - B) = \frac{1}{2}, \sin B = \frac{1}{\sqrt{2}}$ అయిన A విలువ

A. 15°

B. 105°

C. 90°

D. 60°

Watch Video Solution

240. Value of $\cos 75^\circ =$

A. $\sin 15^\circ$

B. $-\sin 15^\circ$

C. $\cos ec 15^\circ$

D. $\frac{\sqrt{3}}{2}$

Watch Video Solution

241. $\tan\theta.\cot\theta = \sec\theta$. X అయిన x =

A. $\cos\theta$

B. $\sec\theta$

C. $\tan\theta$

D. $\cot\theta$

Watch Video Solution

242. $\left(1+\tan^2 A\right)\left(1-\sin^2 A\right) =$

A. $\sec^2 A$

B. $\cos^2 A$

C. 1

D. $1-\sin^2 A+\tan^2 A$

Watch Video Solution

243. $\tan 240^\circ =$

A. $\frac{1}{\sqrt{3}}$

B. $\sqrt{3}$

C. $-\sqrt{3}$

D. $-\frac{1}{\sqrt{3}}$

Watch Video Solution

244. $\sin^2 45^0 + \cos^2 45^0 + \tan^2 45^0$=

A. 2

B. 1

C. 3

D. $\frac{3}{\sqrt{2}}$

Watch Video Solution

245. $\frac{\sin^4 A - \cos^4 A}{\sin^2 A - \cos^2 A} =$

A. $\sin^2 A - \cos^2 A$

B. 1

C. $\sin^2 A$

D. $\cos^2 A$

Watch Video Solution

246. If $\sin\theta = \frac{1}{2}$, then $\cos\left(\frac{3\theta}{2}\right)$

A. $\frac{1}{\sqrt{2}}$

B. $\frac{\sqrt{3}}{2}$

C. $\frac{1}{2}$

D. $\frac{2}{\sqrt{3}}$

Watch Video Solution

247. $\cos\left(\frac{3\pi}{2}+\theta\right)=$

A. $\cos\theta$

B. $\sin\theta$

C. $-\sin\theta$

D. $\sec\theta$

Watch Video Solution

248. $\tan\theta.\ \frac{\sqrt{1-\sin^2\theta}}{\sqrt{1-\cos^2\theta}}=$

A. $\sin\theta$

B. $\cos\theta$

C. $\sec\theta$

D. 1

Watch Video Solution

249. $\sec\theta + \tan\theta = \frac{1}{5}$ అయిన $\sin\theta$=

A. $\frac{5}{13}$

B. $\frac{12}{13}$

C. $\frac{13}{12}$

D. $-\frac{5}{13}$

Watch Video Solution

250. $\left(\sec 45^0 + \tan 45^0\right)\left(\sec 45^0 - \tan 45^0\right) =$

A. 1

B. 0

C. 2

D. $2\sqrt{2}$

Watch Video Solution

251. $\sin\left(\frac{\pi}{6}\right) + \cos\left(\frac{\pi}{3}\right) =$

A. $\frac{2}{\sqrt{3}}$

B. 2

C. $\frac{1}{2}$

D. 1

Watch Video Solution

252. If the angle in a triangle are in the ratio of 1:2:3, then the smallest angle in radius is

A. $\frac{\pi}{3}$

B. $\frac{\pi}{6}$

C. $2\frac{\pi}{3}$

D. $\frac{\pi}{2}$

Watch Video Solution

253. $\sqrt{\cos ec^2\theta - \cot^2\theta}$=

A. $\cos ec\theta - \cot\theta$

B. $\cos ec\theta + \cot\theta$

C. 1

D. 0

Watch Video Solution

254. tan A ను sin A లలో వ్రాయగా

A. $\frac{\sqrt{1-\sin^2 A}}{\sin A}$

B. `sqrt(1+sin^2A)/(sin A)

C. $\frac{\sin A}{1-\sin^2 A}$

D. $\frac{\sin A}{\sqrt{1-\sin^2 A}}$

Watch Video Solution

255. $1/1-\sin\theta+1/1+\sin\theta=$

A. $2\tan^2\theta$

B. $2\sec^2\theta$

C. $2\cos ec^2\theta$

D. $2\cot^2\theta$

Watch Video Solution

256. $\sec\theta+\tan\theta=4$ అయిన $\cos\theta=$

A. $\frac{8}{17}$

B. $\frac{4}{17}$

C. $\frac{15}{17}$

D. $\frac{17}{8}$

Watch Video Solution

257. $\cot^2\theta = 3$ అయిన $\cos ec\theta$=

A. 4

B. 2

C. 3

D. 1

Watch Video Solution

258. $\tan 0^0$=

A. 1

B. ∞

C. $\frac{1}{\sqrt{3}}$

D. 0

Watch Video Solution

259. If $\cos\theta = -\cos\theta$, then θ is

A. 60°

B. 45°

C. 30°

D. 90°

Watch Video Solution

260. $\sin\theta = \frac{a}{b}, \cos\theta = \frac{c}{d}$ అయిన $\cot\theta$=

A. $\frac{ab}{cd}$

B. $\frac{bc}{ad}$

C. $\frac{ca}{bd}$

D. $\frac{ab}{bc}$

Watch Video Solution

261. A అల్ప కోణం మరియు $\tan A = \frac{1}{\sqrt{3}}$ అయిన sin A=

A. $\frac{1}{2}$

B. 1

C. $\sqrt{2}$

D. $\frac{\sqrt{3}}{2}$

Watch Video Solution

262. If $\sin\theta = \frac{a}{b}\cos\theta = \frac{c}{d}$ then $\tan\theta =$

A. $\frac{bc}{ad}$

B. $\frac{ad}{bc}$

C. $\frac{ab}{cd}$

D. $\frac{ab}{b}$

Watch Video Solution

263. If $\sin A = \frac{1}{\sqrt{2}}$ then tan A=

A. 3

B. 4

C. 1

D. $\sqrt{2}$

Watch Video Solution

264. The radius of a circle us 'r' , an arc of length 'l' is making an angle θ, at the centre of the circle ,then θ=

A. $\frac{l}{r}$

B. $\frac{r}{l}$

C. lr

D. $l + r$

Watch Video Solution

265. tan (A+B)=

A. $\frac{\tan A + \tan B}{1 + \tan A . \tan B}$

B. $\frac{\tan A + \tan B}{1 - \tan A . \tan B}$

C. $\tan A + \tan B$

D. $\frac{1 + \tan A . \tan B}{\tan A + \tan B}$

Watch Video Solution

266. tan (A-B)=

A. $\tan A - \tan B$

B. $\frac{1 + \tan A . \tan B}{\tan A - \tan B}$

C. $\frac{\tan A - \tan B}{1 + \tan A . \tan B}$

D. $\frac{q}{\tan A - \tan B}$

Watch Video Solution

267. $\frac{\sqrt{\cos ec^2\theta - 1}}{\cot\theta} =$

A. $1 + \sec\theta$

B. $\cos ec\theta + \cot\theta$

C. $\cos\theta$

D. $\tan\theta$

Watch Video Solution

268. $\frac{\sin\theta}{\sqrt{1 - \sin^2\theta}} =$

A. $\tan\theta$

B. $\cos ec\theta$

C. $\cot\theta$

D. $\sec\theta$

Watch Video Solution

269. $\frac{\sqrt{\sec^2\theta - 1}}{\sec\theta}$ =

A. $\cos ec\theta$

B. $\sin\theta$

C. $\cos ec\theta - \cot\theta$

D. $2\sec\theta$

Watch Video Solution

270. $x = 2\cos ec\theta, y = 2\cot\theta$ అయిన $x^2 - y^2$=

A. 4

B. 0

C. 1

D. 2

Watch Video Solution

271. If $\cos(A+B)=0, \cos B=\frac{\sqrt{3}}{2}$ then A is

A. 60°

B. 180°

C. 15°

D. 115°

Watch Video Solution

272. $\frac{\tan\theta}{\sqrt{1+\tan^2\theta}} =$

A. $\frac{\tan\theta}{1+\tan\theta}$

B. $\frac{1}{\tan\theta}$

C. $\cot\theta$

D. $\sin\theta$

Watch Video Solution

273. $\sqrt{1-\cos^2\theta}/\cos\theta =$

A. $\tan\theta$

B. $\cos\theta$

C. $\sec\theta$

D. $\cot\theta$

Watch Video Solution

274. $\frac{1}{\sqrt{1+\tan^2\theta}}=$

A. $\sin\theta$

B. $\cos\theta$

C. $\sec\theta$

D. $\cos ec\theta$

Watch Video Solution

275. $\cos\theta.\ \tan\theta=$

A. $\cos\theta$

B. $\cot\theta$

C. $\sin\theta$

D. $\cos^2\theta$

Watch Video Solution

276. $\sin(180+\theta) = -\sin\theta$ అయితే $\sin 225^0$=

A. $\frac{1}{\sqrt{2}}$

B. $-\frac{1}{\sqrt{2}}$

C. $\frac{\sqrt{3}}{2}$

D. $\frac{2}{\sqrt{3}}$

Watch Video Solution

277. $\sec^2 33^0 - \cot^2 57^0 =$

A. 0

B. 1

C. -1

D. $\frac{1}{2}$

Watch Video Solution

278. $\cos^6 \theta + \sin^6 \theta =$

A. $1 + \sin^3 \theta . \cos^3 \theta$

B. $1 - 3\sin^3 \theta . \cos^3 \theta$

C. $1 - 3\sin^2 \theta . \cos^2 \theta$

D. $1 + 3\sin^3 \theta . \cos^3 \theta$

Watch Video Solution

279. $\sin 180^\circ =$

A. 0

B. 1

C. -1

D. ∞

Watch Video Solution

280. $\cos\theta = \frac{1}{2}$ అయిన $\cos\theta/2$=

A. $\frac{1}{4}$

B. $\frac{\sqrt{3}}{2}$

C. $\frac{1}{2}$

D. 1

Watch Video Solution

281. $\sin(A+B).\cos(A-B)+\sin(A-B).\cos(A+B)=$

A. $\cos 2A$

B. $\cos 2B$

C. $\sin 2A$

D. $\sin 2B$

Watch Video Solution

282. $\cos\theta=$

A. $1 - \sin^2\theta$

B. $\sin^2\theta + 1$

C. $\frac{\cot\theta}{\cos ec\theta}$

D. $\frac{\cos ec\theta}{\cot\theta}$

Watch Video Solution

283. $\cos 0^0 + \sin 90^0 + \sqrt{3}\cos ec60^0$ విలువ

A. 2

B. 3

C. 4

D. 1

Watch Video Solution

284. $\cos 60^0 . \cos 30^0 - \sin 60^0 . \sin 30^0$ విలువ

A. 1

B. 0

C. $\frac{1}{4}$

D. $\frac{1}{2}$

Watch Video Solution

285. $\cos 300^\circ =$

A. $\frac{\sqrt{3}}{2}$

B. 1

C. 0

D. $\frac{1}{2}$

Watch Video Solution

286. If $\sin(A+B)=1\sin B=\frac{1}{2}$ then A=

A. 30°

B. 45°

C. 60°

D. 90°

Watch Video Solution

287. $\sqrt{\sec^2 A+\cos ec^2 A}$=

A. $\cos A+\sin A$

B. $\sec A+\cos ecA$

C. $\tan A + \cot A$

D. 1

Watch Video Solution

288. If $\sqrt{3}\tan\theta = 1$ then $\theta =$

A. 30°

B. 45°

C. 60°

D. 90°

Watch Video Solution

289. $\sqrt{\cos ec^2\theta - \sin^2\theta - \cos^2\theta} =$

A. $\cot\theta$

B. $\tan\theta$

C. sectheta

D. $\cos ec\theta$

Watch Video Solution

290. $\cos ec60^0 * \cos 90^0 =$

A. $\propto$

B. $\frac{2}{\sqrt{3}}$

C. 0

D. 3

Watch Video Solution

291. $\sin 81^0$=

A. $\cos 9^\circ$

B. $\cos 81^\circ$

C. $-\cos 9^\circ$

D. cannot be possible to determine without tables

Watch Video Solution

292. If $\sin\theta = \frac{11}{15}$, then $\cos\theta$ =

A. $\frac{\sqrt{26}}{7}$

B. $\frac{2\sqrt{26}}{3}$

C. $\frac{2\sqrt{26}}{15}$

D. none

Watch Video Solution

293. If $\tan\theta = \sqrt{3}$ then $\sec\theta$ =

A. 2

B. -2

C. 4

D. 5

Watch Video Solution

294. If $3\cot\theta = 5$, then $\frac{5\sin\theta - 3\cos\theta}{5\sin\theta + 3\cos\theta}$ = ...

A. -1

B. 1

C. 7

D. 0

Watch Video Solution

295. $\left(1+\tan^2\theta\right)\cos^2\theta$ = ...

A. 1

B. 0

C. 8

D. 14

Watch Video Solution

296. $\left(\sec^2\theta-1\right)\left(\cos ec^2\theta-1\right)$=.....

A. 2

B. -1

C. 3

D. -4

Watch Video Solution

297. $\cot^2\theta - \dfrac{1}{\sin^2\theta} =$

A. 4

B. -3

C. 2

D. -1

Watch Video Solution

298. Show that $\sqrt{\sec^2\emptyset + \cos ec^2\emptyset} = \tan\emptyset + \cot\emptyset$

A. $\tan\theta + \cot\theta$

B. $\tan\theta - \cot\theta$

C. $\frac{\tan\theta}{\sec\theta}$

D. none

Watch Video Solution

299. $\frac{\cos\theta}{1-\tan\theta} + \frac{\sin\theta}{1-\cot\theta}$ = ...

A. $\sec\theta - \tan\theta$

B. $\cos\theta - \sin\theta$

C. $\cos\theta + \sin\theta$

D. none

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300. $\frac{\sin\theta - 2\sin^3\theta}{2\cos^3\theta - \cos\theta}$ = ...

A. $3\cos\theta$

B. $\cos\theta$

C. $\sec\theta$

D. $\tan\theta$

Watch Video Solution

301. $\sec^2\theta + \cos ec^2\theta$ = ...

A. $\sec^2 \cos ec^2\theta$

B. $\cos^2\theta\tan^2\theta$

C. $-\cos^2\theta$

D. none

Watch Video Solution

302. $(\cos ec\theta - \cot\theta)^2$ = ...

A. $\frac{1+\cos\theta}{1-\cos\theta}$

B. $\frac{1-\cos\theta}{1+\cos\theta}$

C. $\frac{\sin\theta+1}{\sec\theta}$

D. $\frac{1-\cos\theta}{2}$

Watch Video Solution

303. $\frac{1}{\sec\theta - \tan\theta}$ = ...

A. $\sec\theta + \tan\theta$

B. $\sec\theta - \tan\theta$

C. 1

D. -1

Watch Video Solution

304. $\frac{\tan^2\theta}{1 + \tan^2\theta}$ = ...

A. $\sin^2\theta + 1$

B. $\sin^3\theta$

C. $\sin\theta$

D. $\sin^2\theta$

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305. The value of $\sin 29^\circ - \cos 61^\circ$ is .....

A. 1

B. 0

C. 3

D. 4

Watch Video Solution

306. The value of $\cos^2 17^\circ - \sin^2 73^\circ$ is .....

A. 3

B. 1

C. 0

D. 4

Watch Video Solution

307. The value of $\sec 70^\circ \cdot \sin 20^\circ + \cos 20^\circ \cdot \cos ec 70^\circ$ = ...

A. 4

B. 1

C. -2

D. 2

Watch Video Solution

308. $\tan 1^\circ . \tan 2^\circ . \tan 3^\circ ... \tan 89^\circ =$

A. 1

B. -2

C. 3

D. 7

Watch Video Solution

309. In $\triangle ABC, \tan\left(\frac{B+C}{2}\right)$ = ...

A. $\tan A$

B. $\sin A$

C. $\cot\left(\frac{A}{2}\right)$

D. $\cos\frac{A}{2}$

Watch Video Solution

310. $\frac{\sin(90-\theta)\sin\theta}{\tan\theta} - 1 =$ .....

A. $1 - \sin\theta$

B. $-\cos^2\theta$

C. $\sin\theta$

D. $-\sin^2\theta$

Watch Video Solution

311. The value of $\cos 1^\circ \cdot \cos 2^\circ \cdot \cos 3^\circ$ ..... $\cos 180^\circ$ = ...

A. 4

B. 1

C. 0

D. none

Watch Video Solution

312. $\tan 5^\circ \times \tan 30^\circ \times 4\tan 85^\circ$ = ...

A. $\frac{4}{\sqrt{3}}$

B. $\frac{\sqrt{3}}{2}$

C. $\frac{1}{2}$

D. $\frac{\sqrt{3}}{7}$

Watch Video Solution

313. $\frac{1-\tan^2 45^\circ}{1+\tan^2 45^\circ}$ = ...

A. 3

B. 4

C. 1

D. none

Watch Video Solution

314. $\sec A = \cos ecB$, then A and B are ..... Angles.

A. supplementary

B. Complementary

C. Acute

D. 0

Watch Video Solution

315. $\sec^4 A - \sec^2 A$ = ...

A. $\tan^4 A + \tan^2 A4$

B. $\tan^4 A - 1$

C. $1 - \tan^4 A$

D. None

Watch Video Solution

316. $\sin\theta + \sin^2\theta = 1$, then $\cos^2\theta + \cos^4\theta$ = ...

A. 4

B. 3

C. -1

D. 1

Watch Video Solution

317. If $\sin\theta = \frac{1}{2}$, then $\cot\theta$ = ...

A. 8

B. 4

C. $\sqrt{3}$

D. 3

Watch Video Solution

318. If $\tan(15^\circ + B) = \sqrt{3}$, then B=.....

A. 60°

B. 45°

C. 15°

D. None

Watch Video Solution

319. If $\tan\theta = 1$, then $\cos\theta$=.....

A. 1

B. $\frac{1}{2}$

C. $\sqrt{2}$

D. $\frac{1}{\sqrt{2}}$

Watch Video Solution

320. If $\cos\theta.\sin\theta = \frac{1}{2}$, then $\tan\theta$ = ...

A. 1

B. -1

C. 3

D. 4

Watch Video Solution

321. If $\cos\theta = -\cos\theta$, then θ in radian measure is.....

A. π^c

B. $\frac{\pi^c}{2}$

C. $\frac{\pi^c}{3}$

D. $\frac{\pi^c}{7}$

Watch Video Solution

322. If $\sin A = \frac{3}{5}$, then $\sin(90 + A)$ = ...

A. $\frac{4}{5}$

B. $\frac{5}{4}$

C. $\frac{1}{3}$

D. $\frac{2}{3}$

Watch Video Solution

323. $\sqrt{(\sec\theta + 1)(\sec\theta - 1)}$ = ...

A. $\cot\theta$

B. $\tan\theta$

C. $\cos\theta$

D. $\sin\theta$

Watch Video Solution

324. $\sqrt{\sec^2\theta - \tan^2\theta + \cot^2\theta}$ = ...

A. $-\cos\theta$

B. 1

C. $\sec\theta$

D. $\cos ec\theta$

Watch Video Solution

325. $\cos 150^\circ$ = ...

A. $-\frac{\sqrt{3}}{2}$

B. $-\sqrt{3}$

C. $-\frac{1}{2}$

D. None

Watch Video Solution

326. $\sin^2 75^\circ + \cos^2 75^\circ$ = ...

A. 3

B. 2

C. 4

D. 1

Watch Video Solution

327. $\sin 240^\circ + \sin 120^\circ$ = ...

A. 0

B. -1

C. 3

D. None

Watch Video Solution

328. If $\cos ec\theta + \cot\theta = 2$ then $\cos ec\theta - \cot\theta$ = ...

A. -1

B. 2

C. $\frac{1}{2}$

D. 3

Watch Video Solution

329. If $\sec A + \tan A = \frac{1}{3}$, then $\sec A - \tan A$ = ...

A. 4

B. 1

C. -3

D. 3

Watch Video Solution

330. $\sin 30^\circ + \cos 60^\circ$ = ...

A. 1

B. 4

C. 3

D. None

Watch Video Solution

331. $(\cos A + \sin A)^2 + (\cos A - \sin A)^2$ = ...

A. 1

B. 2

C. 4

D. None

Watch Video Solution

332. $\sin 450^\circ$ = ...

A. 4

B. 3

C. -1

D. 1

Watch Video Solution

333. cos(A + B)=

A. $\cos A \cos B - \sin A \sin B$

B. $\cos A \sec B - \sin A \sin B$

C. $\cos A \cos B + \sin A \sin B$

D. None

Watch Video Solution

334. $\tan(A - B)$ = ...

A. $\tan A - \tan B$

B. $\tan B - \tan A$

C. $\dfrac{\tan A - \tan B}{1 + \tan A \tan B}$

D. None

Watch Video Solution

335. $\sin(A - B)$ = ...

A. $\sin A - \cos B$

B. $\sin A \cos B - \cos A \sin B$

C. $\sin A - \cos B$

D. None

Watch Video Solution

336. $\tan(360 - \theta)$ = ...

A. $\sin\theta$

B. $\sec\theta$

C. $\tan\theta$

D. $-\tan\theta$

Watch Video Solution

337. The value of $\tan 75^\circ$ = ...

A. $2 + \sqrt{3}$

B. $2 - \sqrt{3}$

C. $\sqrt{3} - 1$

D. None

Watch Video Solution

338. $\cos 110^\circ \cdot \cos 70^\circ - \sin 110^\circ \cdot \sin 70^\circ$ = ...

A. 4

B. 1

C. -1

D. 3

Watch Video Solution

339. Express $\tan\theta$, interms of $\sin\theta$.....

A. $\frac{\cos\theta}{1-\sin\theta}$

B. $\frac{\sin\theta}{1-\sin^2\theta}$

C. $\frac{\sin\theta}{1+\cos\theta}$

D. None

Watch Video Solution

340. $\cos ec60^\circ \cdot \sec 60^\circ$ = ...

A. $\frac{1}{2}$

B. $\frac{\sqrt{3}}{4}$

C. $\frac{4}{3}$

D. $\frac{4}{\sqrt{3}}$

Watch Video Solution

341. $\sin(A+B)$ = ...

A. $\sin A \cos B + \cos A \sin B$

B. $\sin A - \cos B \sin B$

C. $\sin A \cos B - \sin A \sin B$

D. None

Watch Video Solution

342. $\cos(180 - \theta)$ = ...

A. $-\cos\theta$

B. $\cos\theta$

C. $\sec\theta$

D. None

Watch Video Solution

343. $\sin 2A$ = ...

A. $2 \sin A \cos A$

B. $\cos A \sin A$

C. $\sin^2 A$

D. $\cos^2 A$

Watch Video Solution

344. $\sqrt{\cos ec^2\theta - \sin^2\theta - \cos^2\theta}$ = ...

A. $-\tan\theta$

B. $-\sin\theta$

C. $\sec\theta$

D. $\cot\theta$

Watch Video Solution

345. $\left(1-\sec^2\theta\right)\left(1-\operatorname{cosec}^2\theta\right)$ = ...

A. 3

B. -1

C. 4

D. 1

Watch Video Solution

346. If $\cos\theta=\frac{3}{5}$, then $\cos(-\theta)$ = ...

A. $\frac{-3}{5}$

B. $\frac{3}{5}$

C. $\frac{1}{5}$

D. $\frac{1}{4}$

Watch Video Solution

347. $2\sin 45^\circ \cdot \cos 45^\circ$ = ...

A. 1

B. 4

C. -1

D. None

Watch Video Solution

348. If $\cot\theta = x$, then $\cos ec\theta$ = ...

A. $\sqrt{2x+1}$

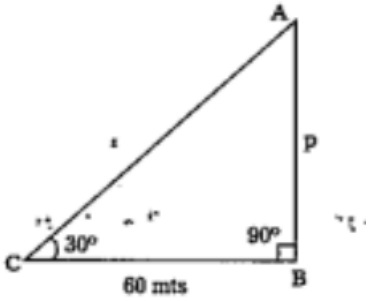
B. $\sqrt{1+x}$

C. $\sqrt{x^2+1}$

D. None

Watch Video Solution

349. In the figure, AB=.....



A. $16\sqrt{3}$

B. $10\sqrt{3}$

C. $9\sqrt{3}$

D. $20\sqrt{3}$

Watch Video Solution

350. $\sin 45^\circ \cdot \cos 45^\circ + \sqrt{3}\sin 60^\circ$ = ...

A. 2

B. -2

C. 3

D. None

Watch Video Solution

351. $\frac{\sqrt{\sec^2 A - 1}}{\sec A}$ = ...

A. $\sec A$

B. $-\cos A$

C. $\cos A$

D. $\sin A$

Watch Video Solution

352. $\frac{\sqrt{\cos ec^2\theta - 1}}{\cos ec\theta}$ = ...

A. $-\sin\theta$

B. $-\cos\theta$

C. $\cos\theta$

D. None

Watch Video Solution

353. If $\alpha + \beta = 90^\circ$ and $\alpha = 2\beta$, then $\cos^2 \alpha + \sin^2 \beta$ = ...

A. $\frac{-1}{2}$

B. 1

C. 2

D. $\frac{1}{2}$

Watch Video Solution

354. $\tan 30^\circ + \cot 30^\circ$ = ...

A. $\frac{4}{\sqrt{3}}$

B. $\frac{4}{3}$

C. $\frac{\sqrt{3}}{4}$

D. None

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355. $\sqrt{\tan^2\theta + \cot^2\theta + 2}$ = ...

A. $\tan\theta - \cos\theta$

B. $\tan\theta$

C. $\tan\theta + \cot\theta$

D. $\tan\theta - \cot\theta$

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356. If $\sin\theta = \frac{a}{b}$, then $\cos\theta$ = ...

A. $\frac{a}{\sqrt{b^2+1}}$

B. $\frac{b}{\sqrt{a^2-b^2}}$

C. $\frac{a}{\sqrt{a^2+b}}$

D. $\frac{a}{\sqrt{b^2-a^2}}$

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357. $\tan\theta = \frac{1}{\sqrt{3}}$, $\cos\theta$=.....

A. $\frac{\sqrt{3}}{2}$

B. $\sqrt{3}$

C. $\frac{2}{\sqrt{3}}$

D. $\frac{1}{2}$

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358. If $5\sin A = 3, \sec^2 A - \tan^2 A$ = ...

A. 3

B. -1

C. 4

D. 1

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359. $\sin(-\theta)$=

A. $\cos\theta$

B. $-\tan\theta$

C. $\sec\theta$

D. $-\sin\theta$

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360. $\cos(-\theta)$ = ...

A. $\sec\theta$

B. $-\cos\theta$

C. $\cos\theta$

D. 1

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361. $\sin(180-\theta)$ = ...

A. $\cos\theta$

B. $\sin\theta$

C. $\tan\theta$

D. 0

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362. $\cot(270^\circ - \theta) =$

A. $\cos\theta$

B. $\sin\theta$

C. $-\sin\theta$

D. $-\tan\theta$

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363. $\tan(360 - \theta)$ = ...

A. $-\tan\theta$

B. $\tan\theta$

C. $\sec\theta$

D. $\cos\theta$

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364. $\cos ec(270-\theta)$ = ...

A. $\sec\theta$

B. $-\sec\theta$

C. $\tan\theta$

D. None

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365. $\sec(90+\theta)$ = ...

A. $\tan\theta$

B. $\cos ec\theta$

C. $-\cos\theta$

D. $-\cos ec\theta$

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366. $\cos 240^\circ$ = ...

A. $\frac{-1}{2}$

B. -1

C. $\frac{2}{3}$

D. -3

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367. $\sin 420^\circ$ = ...

A. $-\frac{\sqrt{3}}{2}$

B. 1

C. $\frac{\sqrt{3}}{2}$

D. $\frac{2}{\sqrt{2}}$

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368. $\tan 750^\circ$ = ...

A. $\frac{-1}{\sqrt{3}}$

B. $\sqrt{3}$

C. -1

D. $\frac{1}{\sqrt{3}}$

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369. $\cos ec300^\circ$ = ...

A. $\frac{-2}{\sqrt{3}}$

B. $\frac{1}{\sqrt{3}}$

C. $\frac{-1}{2}$

D. $-\frac{1}{\sqrt{3}}$

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370. $\sec 240^\circ$ .....

A. 3

B. -1

C. 2

D. -2

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371. $\sin^2 47^\circ + \sin^2 43^\circ$ = ...

A. 1

B. -1

C. 3

D. None

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372. If $\cos ec\theta - \cot\theta = 4$, then $\cos ec\theta + \cot\theta$ = ...

A. 1

B. $\frac{1}{2}$

C. $\frac{-1}{4}$

D. $\frac{1}{4}$

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373. $\tan\theta$ in terms of $\cos ec\theta$ = ...

A. $\frac{1}{\sqrt{\cos ec^2\theta - 1}}$

B. $\frac{1}{\sqrt{1 + \cos ec\theta}}$

C. $\frac{1}{1 + \tan^2\theta}$

D. None

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374. $\frac{\cos ec^2\theta}{\cot\theta} - \cot\theta =$ .....

A. $\cot\theta$

B. $\sec\theta$

C. $\tan\theta$

D. None

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375. $\frac{1-\tan^2 30^\circ}{1+\tan^2 30^\circ} =$ .....

A. -2

B. $\frac{-1}{2}$

C. 1

D. $\frac{1}{2}$

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376. $\frac{1}{\sec^2 A} + \frac{1}{\cos ec^2 A} =$ .....

A. -1

B. 1

C. 3

D. 4

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377. $\tan\theta.\ \cot\theta = \sec\theta.$ x, then x = ...

A. $\cos\theta$

B. $-\cos\theta$

C. $\tan\theta$

D. None

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378. If $\sin(A+B) = \frac{\sqrt{3}}{2}, \cos B = \frac{\sqrt{3}}{2}$ value of A is

A. 70°

B. 45°

C. 60°

D. 30°

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379. $\cos\left(\frac{3\pi}{2}+\theta\right)=$

A. $\tan\theta$

B. $\cos\theta$

C. $-\sin\theta$

D. $\sin\theta$

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380. $\sec\theta+\tan\theta=\frac{1}{2}$, then $\sin\theta$ = ...

A. $\frac{3}{5}$

B. $\frac{1}{13}$

C. $\frac{12}{13}$

D. $\frac{13}{2}$

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381. If $\sec\theta = \operatorname{cosec}\theta$, then the value of θ = ...

A. $\frac{\pi^2}{2}$

B. $\frac{\pi^c}{4}$

C. $\frac{\pi^c}{3}$

D. $\frac{\pi^c}{12}$

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382. Maximum value of $\sin\theta + \cos\theta$ = ...

A. 3

B. $\sqrt{3}$

C. 2

D. $\sqrt{2}$

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383. Maximum value of $\cos\theta$ = ...

A. 1

B. -1

C. 2

D. 0

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384. Minimum value of $\cos\theta$ = ...

A. 0

B. -1

C. -3

D. 4

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385. Minimum and maximu value of $\tan\theta$=.....

A. $(-\infty, \infty)$

B. $(\infty, 0)$

C. (3,2)

D. $(1, -1)$

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386. $\frac{\sin^4\theta - \cos^4\theta}{\sin^2\theta - \cos^2\theta}$ = ...

A. 2

B. -1

C. 1

D. None

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387. $\cos 0^\circ + \sin 90^\circ + \sqrt{3}\cos ec60^\circ$ = ...

A. 0

B. -1

C. 3

D. 4

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388. $\begin{vmatrix} \tan\theta & \sec\theta \\ \sec\theta & \tan\theta \end{vmatrix}$ = ...

A. -1

B. -4

C. 1

D. None

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389. If $\cos ec\theta + \cot\theta = 3$, then $\cos ec\theta - \cot\theta$ = ...

A. $\frac{1}{2}$

B. $\frac{1}{3}$

C. $\frac{-1}{3}$

D. None

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390. $\frac{\tan\theta}{\sqrt{1+\tan^2\theta}}$ = ...

A. $-\cos\theta$

B. $-\sin\theta$

C. $\sin\theta$

D. $\sin^2\theta$

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391. $\frac{\sqrt{1-\cos^2\theta}}{\cos\theta}$ = ...

A. $-\cot\theta$

B. $\tan\theta$

C. $\sec\theta$

D. None

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392. $x = 2\cos ec\theta, y = 2\cot\theta, x^2 - y^2$ = ...

A. 4

B. -1

C. -3

D. 2

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393. $\sqrt{\sec^2 A + \operatorname{cosec}^2 A}$=

A. $\tan A - \cos A$

B. $\tan A + \cos A$

C. 1

D. $\tan A + \cot A$

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394. $\sin 81^\circ$ = ...

A. $\cos 9^\circ$

B. $\cos 20^\circ$

C. $\tan 90^\circ$

D. None

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395. $\frac{\sqrt{\sec^2\theta - 1}}{\sec\theta}$

A. $\sec\theta$

B. $\cos\theta$

C. $\sin\theta$

D. None

Watch Video Solution

396. If $\sin A = \frac{1}{\sqrt{2}}$, then $\tan A$ = ...

A. 4

B. 3

C. -1

D. 1

Watch Video Solution

397. $\sin 225^\circ$ = ...

A. $\frac{-1}{\sqrt{2}}$

B. $\sqrt{2}$

C. $\frac{-1}{2}$

D. 1

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398. $\cos(x - y)$ = ...

A. $\cos x \cos y + \sin x \sin y$

B. $\cos x - \sin x \sin y$

C. $\cos x \cos y - 1$

D. All

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399. $\frac{1}{1 - \sin\theta} + \frac{1}{1 + \sin\theta}$ = ...

A. $\sec^4\theta$

B. $\sec\theta$

C. $\frac{\sec^2\theta}{2}$

D. $2\sec^2\theta$

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400. $\sin^4\theta - \cos^4\theta$ = ...

A. $2\sec^2\theta - 1$

B. $\sec^2\theta + 1$

C. $\sec^2\theta - 3$

D. None

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401. $\tan\theta$ is not defined when θ is

A. 0°

B. 70°

C. 90°

D. 20°

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402. If $\cos ec\theta = \frac{25}{7}$ then $\cot\theta$ = ...

A. $\frac{4}{7}$

B. $\frac{7}{24}$

C. $\frac{4}{23}$

D. $\frac{24}{7}$

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403. $\tan 26^\circ \cdot \tan 64^\circ$ =.....

A. 1

B. -1

C. 3

D. 7

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404. If $\tan 2A = \cot(A - 18^\circ)$ where 2A is an cute angle then A = ...

A. 116°

B. 20°

C. 16°

D. 36°

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405. $\sin(90 - \phi)$ = ...

A. $\cos\phi$

B. $\sin\phi$

C. $-\cos\phi$

D. 0

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406. In $\triangle ABC$, $\sin\left(\frac{B+C}{2}\right)$ = ...

A. $\cos \frac{A}{2}$

B. $\cos \frac{C}{2}$

C. $\tan \frac{A}{2}$

D. 1

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407. $\frac{\sec 35^\circ}{\cos ec 55^\circ}$ = ...

A. -3

B. 8

C. 4

D. 1

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408. $\sin \frac{\pi^c}{4} + \cos 45^\circ$

A. 2

B. $\sqrt{2}$

C. -1

D. 0

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409. $\sec 0^\circ$ = ...

A. -1

B. 1

C. 0

D. 7

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410. $\sec\theta - \tan\theta = \frac{1}{n}$ then $\sec\theta + \tan\theta$ = ...

A. $-n$

B. -1

C. n

D. None

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411. If $3\tan A = 4$ then $\cos A$ = ...

A. $\frac{1}{2}$

B. $\frac{1}{3}$

C. $\frac{1}{7}$

D. None

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412. $\cos^2\theta$ = ...

A. $1+\sin^2\theta$

B. $1-\sin^2\theta$

C. $1-\sin\theta$

D. $1+\cos\theta$

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413. $\sec\theta$ is not defined if θ = ...

A. 0°

B. 90°

C. 30°

D. 45°

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414. $\left(1+\tan^2 60\right)^2$ = ...

A. 1

B. 10

C. 16

D. 12

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415. Reciprocal of $\cot A$ = ...

A. $\sin A$

B. $\sin^2 A$

C. $\sec^2 A$

D. $\tan A$

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416. $\sin A = \cos B$ then $A + B$ = ...

A. 20°

B. 70°

C. 90°

D. None

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417. Trigionometry was introduced by .....

A. Cantor

B. Cayley

C. Hipparchus

D. None

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418. If $\tan A = \frac{3}{4}$ then $\sec^2 A - \tan^2 A$ = ...

A. 4

B. 3

C. -1

D. 1

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419. $\tan^2\phi - \sec^2\phi$ = ...

A. -1

B. 1

C. 3

D. 0

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420. $\cos 12 - \sin 78$=.....

A. 1

B. $\frac{1}{2}$

C. 0

D. -1

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421. If $x = \cos ec\theta + \cot\theta$ and $y = \cos ec\theta - \cot\theta$,then which of the following is true.....

A. $X + Y = 0$

B. $X - Y = 0$

C. $\frac{X}{Y} = 1$

D. $xy = 1$

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422. cos(A-B) =

A. $\cos A \cos B + \sin A \sin B$

B. $\cos A \sin A + \cos B \sin B$

C. $\sin A \sin B - \cos A \cos B$

D. $\cos A \cos B - \sin A \sin B$

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423. $\cos(90 - \theta)$=

A. $\cos \theta$

B. $\sin \theta$

C. $\cos ec\theta$

D. $\tan\theta$

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424. In $\triangle ABC \sin C = \frac{3}{5}$ then $\cos A$=.....

A. $\frac{3}{5}$

B. $\frac{4}{5}$

C. $\frac{5}{4}$

D. $\frac{5}{3}$

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425. $\tan^2\theta - \sec^2\theta$=.....

A. 1

B. -1

C. 0

D. α

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426. $\sec\left(90^0 - A\right) =$

A. $\cos A$

B. $\cos ecA$

C. $\sin A$

D. $\tan A$

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427. If $\cos ec\theta + \cot\theta = 5$ then $\cos ec\theta - \cot\theta$=.....

A. $\frac{1}{5}$

B. 5

C. -5

D. $-\frac{1}{5}$

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428. If $x = 2\sec\theta, y = 2\tan\theta$ then $x^2 - y^2$=.....

A. 0

B. -2

C. 4

D. 2

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429. If $\sqrt{3}\tan\theta = 1$ then $\theta =$

A. 60°

B. 90°

C. 45°

D. 30°

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430. $(\sec 60)(\cos 60)$=.....

A. 1

B. $\frac{1}{2}$

C. -1

D. $-\frac{1}{2}$

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431. $\sin\left(60^0+30^0\right)$ =

A. 2

B. -2

C. -1

D. 1

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432. If $\sec\theta+\tan\theta=\frac{1}{2}$ then $\sec\theta-\tan\theta$=.....

A. 1

B. -1

C. 2

D. $\frac{1}{2}$

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433. $\cos(90-\theta)$=

A. $\cos\theta$

B. $\tan\theta$

C. $\cos ec\theta$

D. $\sin\theta$

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434. $\tan 26^\circ \cdot \tan 64^\circ$ =.....

A. 0

B. 1

C. 90

D. 180

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435. $\frac{1-\tan^2 45^\circ}{1+\tan^2 45^\circ}$ = ...

A. $\tan 90^\circ$

B. 1

C. $\sin 45^\circ$

D. 0

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