

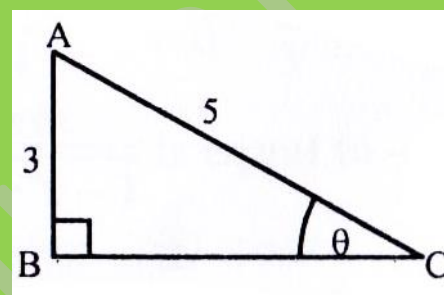
Work Sheet- 2
Class- Nine
Chapter- Eight
Exercise-8.2
Trigonometry

Creative Multiplication Choice Questions

1. If $\sin\theta = \frac{1}{2}$ then what is the value of $\tan(-\theta)$?
 a) $\frac{1}{\sqrt{3}}$ b) $\frac{1}{\sqrt{5}}$
 c) $\frac{2}{\sqrt{5}}$ d) $\frac{2}{\sqrt{3}}$
2. Which one of the following is the trigonometric ratio of $\sin\theta$?
 a) $\frac{\text{Perpendicular}}{\text{Base}}$ b) $\frac{\text{Perpendicular}}{\text{Hypotenuse}}$
 c) $\frac{\text{Base}}{\text{Perpendicular}}$ d) $\frac{\text{Base}}{\text{Hypotenuse}}$
3. Which one of the following is the trigonometric ratio of $\tan\theta$?
 a) $\frac{\text{Perpendicular}}{\text{Hypotenuse}}$ b) $\frac{\text{Base}}{\text{Hypotenuse}}$
 c) $\frac{\text{Perpendicular}}{\text{Base}}$ d) $\frac{\text{Base}}{\text{Perpendicular}}$
4. In the right-angled triangle ABC if $\sin\theta = \frac{1}{2\sqrt{2}}$ and opposite side is 1 unit then what is the adjacent side?
 a) 1 b) $2\sqrt{2}$
 c) $\sqrt{7}$ d) $\sqrt{8}$
5. In the right-angled triangle ABC if $\sec\theta = 3$ and adjacent side is 1 unit then what is the length of the opposite side?
 a) 1 b) $\sqrt{3}$
 c) $\sqrt{8}$ d) 3
6. If $\sin 2A = \cos A$ then the value of A is -
 a) $\frac{\pi}{3}$ b) $\frac{\pi}{6}$
 c) $\frac{\pi}{4}$ d) $\frac{\pi}{2}$
7. If $\sin\theta = \frac{1}{2}$ then what is the value of $\text{cosec}\theta$?
 a) $\frac{1}{2}$ b) 1
 c) 2 d) $2\sqrt{3}$
8. If $\sin\theta = \cos\theta = \frac{1}{\sqrt{2}}$ then what is the value of $\tan\theta$?
 a) $\frac{1}{\sqrt{2}}$ b) 1

- c) $\sqrt{2}$ d) $\sqrt{3}$
9. If $\cos\theta = \frac{1}{2}$ and $\sin\theta = \frac{\sqrt{3}}{2}$ then what is the value of $\cot\theta$?
 a) $\frac{1}{\sqrt{3}}$ b) $\frac{1}{2}$
 c) 1 d) $\sqrt{3}$
10. If $\cos\theta = \frac{1}{\sqrt{2}}$ then what is the value of $\sec\theta$?
 a) $\frac{1}{\sqrt{2}}$ b) $\sqrt{2}$
 c) $2\sqrt{2}$ d) $3\sqrt{2}$

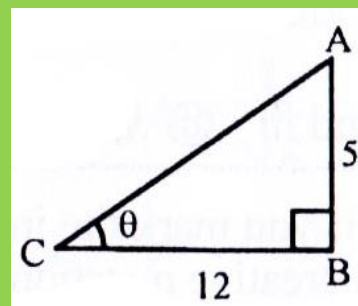
11.



In the figure $AB = 3$ and $AC = 5$ then $\tan\theta =$ What?

- a) $\frac{3}{5}$ b) $\frac{4}{5}$
- c) $\frac{4}{3}$ d) $\frac{5}{3}$

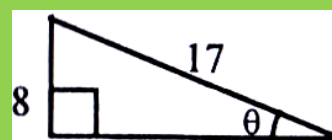
12.



What is the value of $\sec\theta$?

- a) $\frac{12}{3}$ b) $\frac{12}{13}$
- c) $\frac{13}{12}$ d) $\frac{13}{5}$

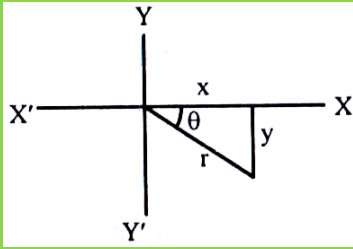
13.



What is the value of $\cot\theta$?

- a) $\frac{8}{17}$ b) $\frac{8}{15}$
- c) $\frac{15}{17}$ d) $\frac{15}{8}$

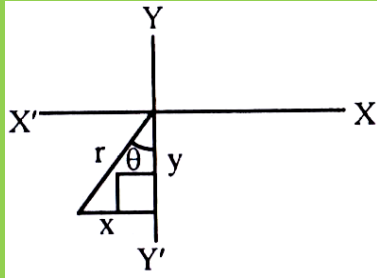
14.



$\tan\theta =$ Which one of the following?

- a) $\frac{x}{y}$ b) $\frac{y}{x}$
 c) $\frac{x}{-y}$ d) $-\frac{y}{x}$

15.



What is the value of $\operatorname{cosec}\theta$?

- a) $\frac{r}{x}$ b) $\frac{r}{y}$
 c) $\frac{r}{-x}$ d) $-\frac{r}{x}$

16. In a right-angled triangle when $\tan\theta = 5$ then $\operatorname{cosec}\theta =$ What?

- a) $\frac{5}{\sqrt{26}}$ b) $\frac{\sqrt{26}}{5}$
 c) $\frac{1}{5}$ d) $\frac{1}{\sqrt{26}}$

17. If $\sin A = \frac{b}{a}$ then what is the value of $\tan A =$ What?

- a) $\frac{b}{\sqrt{a^2-b^2}}$ b) $\frac{a}{\sqrt{a^2-b^2}}$
 c) $\frac{ab}{\sqrt{a^2-b^2}}$ d) $\frac{1}{\sqrt{a^2-b^2}}$

18. In the right-angled triangle ABC if $\sin\theta = \frac{2}{\sqrt{5}}$ and opposite side be 2 units.

- i. Base is 1 unit.
 ii. $\operatorname{cosec}\theta = \sqrt{5}$
 iii. $\tan\theta = 2$

Which one of the following is correct?

- a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii

19. If $\tan\theta = 3\sqrt{3}$ then -

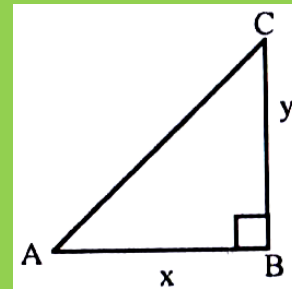
- i. $\operatorname{cosec}\theta = \frac{2\sqrt{7}}{3\sqrt{3}}$
 ii. $\sin\theta = \frac{3\sqrt{3}}{2\sqrt{7}}$

iii. $\cos\theta = \frac{1}{3\sqrt{3}}$

Which one of the following is correct?

- a) i and ii b) ii and iii
 c) i and iii d) i, ii and iii

20.



If $\cot A = \frac{x}{y}$; where, $x > y > 0$.

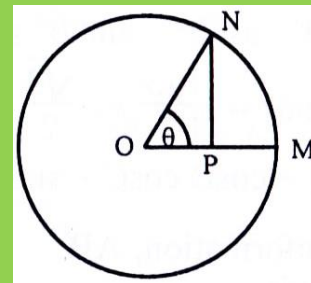
- i. $AC = \sqrt{x^2 + y^2}$.
 ii. $\sin A = \frac{y}{\sqrt{x^2 + y^2}}$
 iii. $\cos A = \frac{x}{\sqrt{x^2 - y^2}}$

Which one of the following is correct?

- a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii

Creative Questions:

1.



In the figure, O is the centre of a circle and $OM = \text{arc } MN$.

- a) Express θ in degree.
 b) Prove that θ is a constant angle.
 c) Determine for what value of θ , $\frac{PN}{ON} + \frac{OP}{ON} = \sqrt{2}$, where $0 < \theta < 2\pi$.

2.

Given, $A = \sec\theta - \tan\theta$

- a) If $\theta = \frac{\pi}{4}$, what is the value of $A^2 + 2A$.
 b) Prove that, $\sin\theta = \frac{1-A^2}{1+A^2}$
 c) Show that $\frac{\sin\theta - \cos\theta + 1}{\sin\theta + \cos\theta - 1} = \frac{1}{A}$

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