Work Sheet- 2
Class- Nine
Chapter-9
Exercise-9.1
Trigonometric Ratio

Creative Multiplication Choice Questions

1. **If $\sec\theta + \tan\theta = \frac{1}{2}$ then $\sec\theta - \tan\theta$ = What?**

a) $\frac{1}{4}$ b) $\frac{1}{3}$

c) $\frac{1}{9}$ d) 2

2. **Observe-**

i. $\tan A + \cot A = \sec A \,.\, \text{cosec}\, A$

ii. $\tan^2 A = \sec^2 A - 1$

iii. $\frac{\tan A}{\sec A + 1} - \frac{\sec A - 1}{\tan A} = 1$

Which one of the following is correct?

a) i and ii b) ii and iii

c) i and iii d) i, ii and iii

3. **For a trigonometric relation-**

i. $\sin(90 - \theta) = \sin\theta$

ii. $\text{cosec}^2\theta - \cot^2\theta = 1$

iii. $\sin^2\theta + \cos^2\theta = 1$

Which one of the following is correct?

a) i and ii b) ii and iii

c) i and iii d) i, ii and iii

∠B is a right angle of a right-angle triangle ABC and tanA = 1. Answer to the question no. (4 – 5) according to the information:

4. **What is the value of sin2A?**

a) 1 b) 0

c) $\frac{1}{2}$ d) $\frac{1}{\sqrt{2}}$

5. **What is the value of two angles?**

a) $45°, 45°$ b) $30°, 45°$

c) $45°, 30°$ d) $30°, 30°$

In ΔABC, ∠B = 1 right angle, AB = 2 unit and AC = 3 unit then answer questions no. (6 – 7):

6. **cosecC = What?**

a) $\frac{3}{\sqrt{5}}$ b) $\frac{\sqrt{5}}{3}$

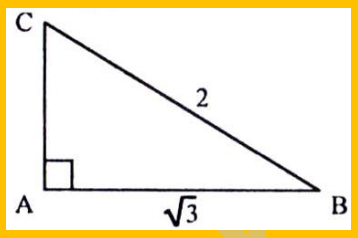
c) $\frac{3}{2}$ d) $\frac{2}{3}$

7. **cotA = What?**

a) $\frac{2}{\sqrt{5}}$ b) $\frac{\sqrt{5}}{2}$

c) $\frac{3}{2}$ d) $\frac{2}{3}$

According to the figure answer the questions No. (8 – 9):



8. **What is the value of sinBcosC?**

a) 1 b) $\frac{1}{4}$

c) $\frac{\sqrt{3}}{4}$ d) 4

9. **What is the value of $\frac{tan^2C - 1}{tan^2B + 1}$?**

a) $-\frac{1}{6}$ b) $\frac{1}{2}$

c) $\frac{3}{2}$ d) $\frac{8}{3}$

10. **From which language the word 'TRIGONOMETRY' has been originated?**

a) Greek b) Latin

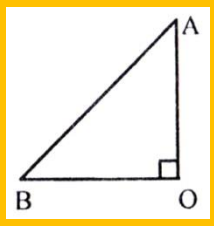
c) Chinese d) English

11. **Which of the following is the opposite side of right angle of a right-angled triangle?**

a) Hypotenuse b) Base

c) Height d) Perpendicular

12.

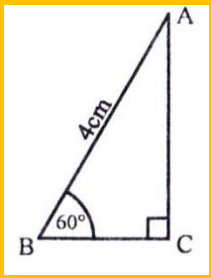


Which of the following is the height of the right-angled triangle AOB?

a) BO b) AB

c) AB + AO d) OA

13.

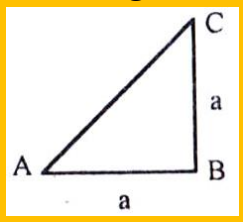


What is the length of BC in ΔABC?

a) 2 cm b) $2\sqrt{3}$ cm

c) $3\sqrt{2}$ cm d) $\frac{2}{\sqrt{3}}\ cm$

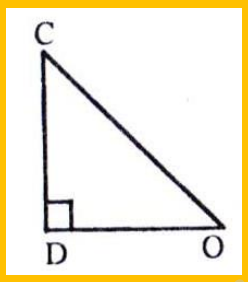
14. What is the length of AC in ΔABC?



a) $2a^2$ b) $\sqrt{2}a$

c) $\sqrt{2a}$ d) 2a

15.

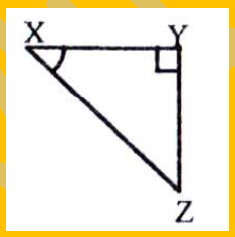


Which of the following is the adjacent side of in the above figure of $\angle OCD$?

a) CD b) OC

c) DO d) CD + CO

16.



In the above figure which of the following is the opposite side of ∠ZXY?

a) YZ b) XZ

c) YX d) XY + YZ

17. In ΔOPN if ∠N = 90° then which of the following is the opposite side of ∠OPN?

a) PN b) ON

c) PO d) OP + PN

18. If a right-angled triangle is constructed by the sides 24 cm, 25 cm and 7 cm then which of the following will be the hypotenuse?

a) 7 b) 24

c) 25 d) 49

19. If 15cotA = 8 then what is the value of secA?

a) $\frac{15}{17}$ b) $\frac{17}{8}$

c) $\frac{8}{17}$ d) $\frac{3}{17}$

20. If the sides of a right-angled triangle are 36 cm, 27 cm and 45 cm.

i. Hypotenuse of it is 45 cm.

ii. Addition of adjacent and opposite sides is equal to the hypotenuse.

iii. Addition of two sides except hypotenuse is 63 cm.

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. If p = 1 + sinA and q = 1 – sinB. **[J.B.- 15]**

a) What is the value of pq?

b) Prove that, $\sqrt{\frac{p}{q}} = \sec A + \tan A.$

c) Prove that, $(\sec A - \tan A)^2 = \frac{q}{p}$

2. ∠C is right angle in right angled ΔABC and tan B = $\sqrt{3}$.

a) What is the value of AB?

b) Prove with the help of stem $\frac{\cot A + \tan B}{\cot B + \tan A} = \cot A \,.\, \tan B.$

c) If ∠B = p + q and ∠A = p − q then find the value of p and q.