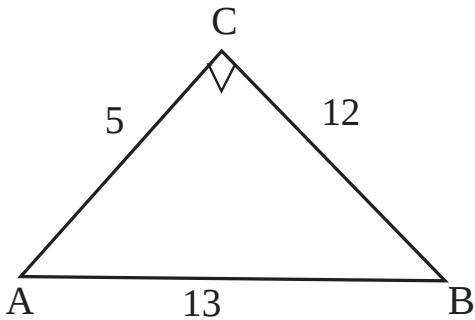


11. TRIGONOMETRY

1. In the following figure, the value of $\cot A$ is _____



2. If in $\triangle ABC$, $\angle B = 90^\circ$, $AB = 12$ cm and $BC = 5$ cm then the value of $\cos C$ is _____

3. If $\cot \theta = \frac{b}{a}$ then the value of

$$\frac{\cos \theta + \sin \theta}{\cos \theta - \sin \theta} \text{ is } \underline{\hspace{2cm}}$$

4. The maximum value of $\sin \theta$ is _____

5. If A is an acute angle of a $\triangle ABC$, right angled at B , then the value of $\sin A + \cos A$ is _____

6. The value of $\frac{2 \tan 30^\circ}{1 + \tan^2 30^\circ}$ is _____

7. If $\sin \theta = 1/2$, then the value of $(\tan \theta + \cot \theta)^2$ is _____

8. If $\sin \theta - \cos \theta = 0$ then the value of $\sin^4 \theta + \cos^4 \theta$ is _____

9. If $\theta = 45^\circ$ then the value of

$$\frac{1 - \cos 2\theta}{\sin 2\theta} \text{ is } \underline{\hspace{2cm}}$$

10. If $\tan \theta = \cot \theta$, then the value of $\sec \theta$ is _____

11. If $A + B = 90^\circ$, $\cot B = 3/4$, then $\tan A$ is equal to _____

12. If $\sin (x - 20^\circ) = \cos (3x - 10^\circ)$. Then x is _____

13. The value of $1 + \tan 5^\circ \cot 85^\circ$ is equal to _____

14. If any triangle ABC, the value of $\sin$ is

$$\frac{B+C}{2} \text{ _____}$$

15. If $\cos\theta = a/b$, then $\operatorname{cosec}\theta$ is equal to _____

16. The value of $\cos 20^\circ \cos 70^\circ - \sin 20^\circ \sin 70^\circ$ is equal to _____

17. The value of $\tan 5^\circ \tan 25^\circ \tan 45^\circ \tan 65^\circ \tan 85^\circ$ is _____

18. If $\tan\theta + \cot\theta = 5$ then the value of $\tan^2\theta + \cot^2\theta$ is _____

19. If $\operatorname{cosec}\theta = 2$ and $\cot\theta = \sqrt{3}p$ where θ is an acute angle, then the value of P is _____

20. $\sqrt{\frac{1+\sin A}{1-\sin A}}$ is equal to _____

21. If $\operatorname{cosec}\theta - \cot\theta = 1/4$ then the value of $\operatorname{cosec}\theta + \cot\theta$ is _____

22. $\sin 45^\circ + \cos 45^\circ =$ _____

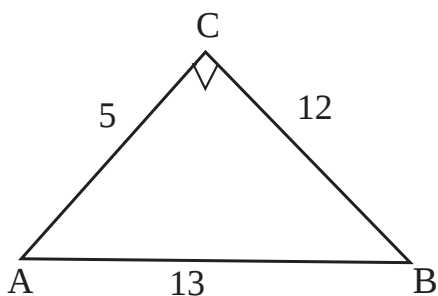
23. $2\tan^2 45^\circ + \cos^2 30^\circ - \sin^2 60^\circ =$ _____

24. $\sin(90^\circ - A) =$ _____

25. If $\sin A = \cos B$ then, the value of $A + B =$ _____

26. If $\sec\theta = \frac{m+n}{2\sqrt{mn}}$ then $\sin\theta =$ _____

27. In the figure, the value of $\sec A$ is _____



28. If $\sin 2A = 1/2$, $\tan^2 45^\circ$, where A is an acute angle then the value of A is _____

29. The maximum value of $1/\sec\theta$, $0^\circ < \theta < 90^\circ$ is _____

30. $\frac{\sin^2 \theta}{1 - \cos^2 \theta}$ is equal to _____

31. If $\cot\theta=1$ then $\frac{1+\sin\theta}{\cos\theta} = \underline{\hspace{2cm}}$
32. $\sec^2\theta-1 = \underline{\hspace{2cm}}$
33. If $\sec\theta + \tan\theta = p$, then the value of $\sec\theta - \tan\theta = \underline{\hspace{2cm}}$
34. The value of $\sin A$ or $\cos A$ never exceeds $\underline{\hspace{2cm}}$
35. $\sec(90^\circ - A) = \underline{\hspace{2cm}}$

ANSWERS

- 1) $5/12$; 2) $5/13$; 3) $b+a/b-a$; 4) 1;
 5) greater than one; 6) $\sin 60^\circ$; 7) $16/3$;
 8) $1/2$; 9) 1; 10) $\sqrt{2}$; 11) $3/4$; 12) 30° ;
 13) $\sec^2 5^\circ$; 14) $\cos A/2$; 15) $\sqrt{b^2 - a^2} / b$;
 16) 1; 17) 1; 18) 23; 19) 1; 20) $\sec A + \tan A$; 21) 4; 22) $\sqrt{2}$; 23) 2;
 24) $\cos A$;
 25) 90° ; 26) $m-n/m+n$; 27) $13/5$;
 28) 15° ; 29) 1; 30) 1; 31) $\sqrt{2} + 1$;
 32) $\tan^2\theta$; 33) $1/p$; 34) 1; 35) $\operatorname{cosec} A$.