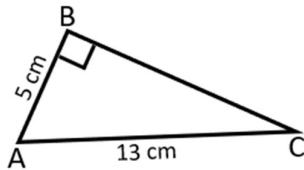


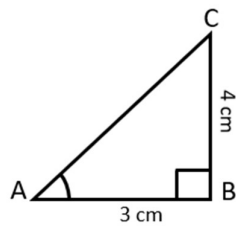
### Trigonometry Worksheet – 3

1. From the below given figure, find the value of:



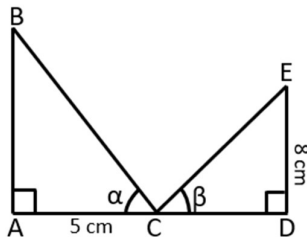
- a) Sin A
- b) Cot A
- c) Cos C
- d)  $\text{Sin}^2 A + \text{Cos}^2 A$

2. If  $3 \text{ Tan } A = 4$ , then find the value of:



- a) Cos A
- b) Cosec A
- c)  $\text{Sec } A - \text{Tan } A$
- d)  $\text{Sec}^2 A - \left(\frac{1}{\text{Cot } A}\right)^2$

3. From the below given figure, if  $\text{Sin } \alpha = \frac{12}{13}$  and  $\text{Cos } \beta = \frac{3}{5}$  then find the length of AD.



4. If  $\text{Sin } \theta = \frac{12}{13}$  and  $\theta$  is less than  $90^\circ$ , find the value of  $\text{Cot } \theta + \text{Tan } \theta$ .

5. If  $\text{Tan } \theta = \frac{5}{12}$ , find the value of  $\text{Cos } \theta + \text{Cosec } \theta$ .

6. If  $5 \text{ Sin } \theta = 4$ , find the value of  $\frac{1+\text{Cos } \theta}{1-\text{Cos } \theta}$ .

7. If  $5 \text{ Tan } \theta = 12$ , find the value of  $\frac{5\text{Sin } \theta - 3\text{Cos } \theta}{5\text{Sin } \theta + 2\text{Cos } \theta}$ .

8. If  $5 \text{ Tan } \theta = 4$ , find the value of  $\frac{5\text{Sin } \theta - 3\text{Cos } \theta}{5\text{Sin } \theta + 2\text{Cos } \theta}$ .

9. If  $13 \text{ Cos } A = 12$  and angle A is acute, find the value of  $\frac{5\text{Sin } A - 2\text{Cos } A}{\text{Tan } A}$ .

10. If  $5 \cos c - 12 \sin \theta = 0$ , then find the value of  $\frac{\sin \theta + \cos \theta}{2 \cos \theta - \sin \theta}$ .

11. In a right-angled triangle ABC,  $\angle A = 90^\circ$ . If  $AB = 7$  cm and  $BC - AC = 1$  cm, then find:

- a)  $\operatorname{Cosec} C$  b)  $\cot B$

12. In a right-angled triangle ABC,  $\angle B = 90^\circ$ . If  $AB = 40$  cm and  $AC + BC = 50$  cm, then find:

- a)  $\cos A$  b)  $\tan C$

13. If  $4 \sin \theta = 3 \cos \theta$ , then find:

- a)  $\cot^2 \theta - \operatorname{cosec}^2 \theta$  b)  $4 \cos^2 \theta - 3 \sin^2 \theta + 2$

14. Find the value of:

- a)  $\sin^2 60^\circ + \cos^2 30^\circ$   
 b)  $\sin 30^\circ \cos 60^\circ$   
 c)  $\operatorname{cosec}^2 60^\circ - \tan^2 30^\circ$   
 d)  $\sin^2 60^\circ + \operatorname{cosec}^2 30^\circ + \tan^2 45^\circ$

15. Find the value of:

- a)  $\sin 60^\circ \cos 30^\circ + \sin 30^\circ \cos 60^\circ$   
 b)  $\cos 30^\circ \cos 60^\circ - \sin 30^\circ \sin 60^\circ$   
 c)  $\operatorname{cosec}^2 45^\circ - \cot^2 45^\circ$   
 d)  $3 \operatorname{cosec}^2 60^\circ - 2 \cot^2 30^\circ + \sec^2 45^\circ$

16. If  $\theta = 15^\circ$  then find the value of  $\frac{\cos 3\theta - 2 \cos 4\theta}{\sin 3\theta + 2 \sin 4\theta}$ .

17. If  $p = 30^\circ$ , then find the value of  $4 \cos^3 p - 3 \cos p$ .

18. If  $q = 30^\circ$ , then find the value of  $4 \cos q \times \cos (60^\circ - q) \times \cos (60^\circ + q)$ .

19. Find the value of A:

- a)  $\sin 3A = \frac{\sqrt{3}}{2}$  b)  $2 \sin 3A = 2$   
 c)  $\tan 3A = 1$  d)  $\sqrt{3} \cot 2A = 1$

20. Find the value of q:

- a)  $2 \sin 3q - 1 = 0$  b)  $\sin (q + 10^\circ) = \frac{1}{2}$   
 c)  $2 \sec (3q - 15^\circ) = 4$  d)  $\sin^2 q + \sin^2 30^\circ = 1$