EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Trigonometry

Grade : SSC Grade X

1. Express $\cot 56°$ in terms of $\sec 56°$

(i) $\frac{1}{\sec 56°}$ (ii) $\sqrt{\sec^2 56° - 1}$ (iii) $\frac{\sec 56°}{\sqrt{\sec^2 56° - 1}}$ (iv) $\frac{1}{\sqrt{\sec^2 56° - 1}}$ (v) $\frac{\sqrt{\sec^2 56° - 1}}{\sec 56°}$

2. Given $\operatorname{cosec} M = \frac{17}{8}$, find $\tan M$

(i) $\frac{8}{15}$ (ii) $\frac{15}{17}$ (iii) $\frac{17}{15}$ (iv) $\frac{8}{17}$ (v) $\frac{15}{8}$

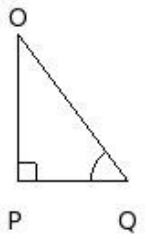
3. $\frac{\cot 11° \tan 63°}{\tan 79° \cot 27°} =$

(i) 1 (ii) 0 (iii) -1 (iv) $\tan 11°$ (v) $\tan 63°$

4. Given that $3\sec\theta = 5$, find $\cot\theta$

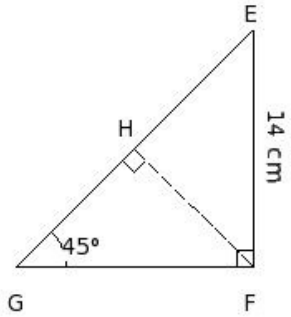
(i) $\frac{5}{4}$ (ii) $\frac{4}{3}$ (iii) $\frac{3}{5}$ (iv) $\frac{3}{4}$ (v) $\frac{4}{5}$

5. In the given figure, $\sin Q =$



(i) $\frac{OP}{QP}$ (ii) $\frac{QP}{OP}$ (iii) $\frac{OP}{OQ}$ (iv) $\frac{QO}{PO}$ (v) $\frac{QP}{RP}$

6. In the given figure, $\triangle EGF$ is right angled at F. If EF = 14 cm and $\angle G = 45°$, find GH

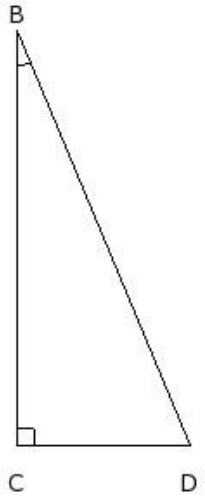


(i) $14\sqrt{3}$ cm (ii) 14 cm (iii) $7\sqrt{2}$ cm (iv) 7 cm (v) $\frac{7}{2}\sqrt{12}$ cm

7. $\tan 45° =$

(i) (-2) (ii) 4 (iii) 0 (iv) 1 (v) 2

8. In the given figure, $\cos B =$



(i) $\frac{DC}{EC}$ (ii) $\frac{DB}{DC}$ (iii) $\frac{BC}{BD}$ (iv) $\frac{DB}{CB}$ (v) $\frac{BD}{BC}$

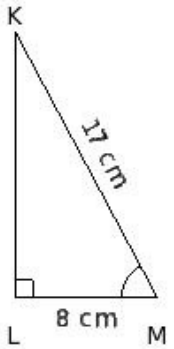
9. $\frac{\cos 2° \sin 71°}{\sin 88° \cos 19°} =$

(i) 1 (ii) -1 (iii) $\tan 2°$ (iv) 0 (v) $\tan 71°$

10. $\cos L =$

(i) $\frac{1}{\cot L}$ (ii) $\frac{1}{\sin L}$ (iii) $\frac{1}{\operatorname{cosec} L}$ (iv) $\frac{1}{\sec L}$ (v) $\frac{1}{\tan L}$

11. In the given figure, $\operatorname{cosec} M =$



(i) $\frac{19}{15}$ (ii) $\frac{17}{13}$ (iii) $\frac{17}{15}$ (iv) 1

12. $\frac{\operatorname{cosec} 2° \sec 20°}{\sec 88° \operatorname{cosec} 70°} =$

(i) 0 (ii) $\tan 2°$ (iii) $\tan 20°$ (iv) 1 (v) -1

13. Express $\sin 30°$ in terms of $\cos 30°$

(i) $\frac{1}{\sqrt{1 - \cos^2 30°}}$ (ii) $\frac{\cos 30°}{\sqrt{1 - \cos^2 30°}}$ (iii) $\frac{\sqrt{1 - \cos^2 30°}}{\cos 30°}$ (iv) $\frac{1}{\cos 30°}$ (v) $\sqrt{1 - \cos^2 30°}$

14. Express $\text{cosec}\,\theta$ in terms of $\cot\theta$

(i) $\frac{1}{\sqrt{1+\cot^2\theta}}$ (ii) $\frac{\cot\theta}{\sqrt{1+\cot^2\theta}}$ (iii) $\sqrt{1+\cot^2\theta}$ (iv) $\frac{1}{\cot\theta}$ (v) $\frac{\sqrt{1+\cot^2\theta}}{\cot\theta}$

15. Which of the following are true?

a) $\sin^2\theta - \cos^2\theta = 1, 0 \le \theta \le 90°$

b) $\sec^2\theta - \tan^2\theta = 1, 0 \le \theta \le 90°$

c) $\text{cosec}^2\theta + \cot^2\theta = 1, 0 \le \theta \le 90°$

d) $\sec^2\theta + \tan^2\theta = 1, 0 \le \theta \le 90°$

e) $\sin^2\theta + \cos^2\theta = 1, 0 \le \theta \le 90°$

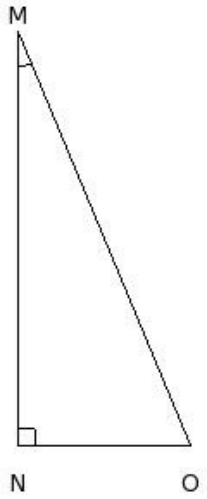
f) $\text{cosec}^2\theta - \cot^2\theta = 1, 0 \le \theta \le 90°$

(i) {b,e,f} (ii) {c,b,e} (iii) {c,e} (iv) {d,a,f} (v) {a,b}

16. Given that $5\cot\theta = 12$, find $\tan\theta$

(i) $\frac{12}{13}$ (ii) $\frac{13}{5}$ (iii) $\frac{5}{13}$ (iv) $\frac{13}{12}$ (v) $\frac{5}{12}$

17. In the given figure, $\cot M =$



(i) $\frac{OM}{NO}$ (ii) $\frac{OM}{MN}$ (iii) $\frac{ON}{PO}$ (iv) $\frac{MN}{NO}$ (v) $\frac{MO}{ON}$

18. Express $\cot\theta$ in terms of $\tan\theta$

(i) $\frac{1}{\tan\theta}$ (ii) $\sqrt{1+\tan^2\theta}$ (iii) $\frac{\sqrt{1+\tan^2\theta}}{\tan\theta}$ (iv) $\frac{\tan\theta}{\sqrt{1+\tan^2\theta}}$ (v) $\frac{1}{\sqrt{1+\tan^2\theta}}$

19. Express $\sec 37°$ in terms of $\cos 37°$

(i) $\frac{1}{\cos 37°}$ (ii) $\frac{\cos 37°}{\sqrt{1-\cos^2 37°}}$ (iii) $\frac{1}{\sqrt{1-\cos^2 37°}}$ (iv) $\sqrt{1-\cos^2 37°}$ (v) $\frac{\sqrt{1-\cos^2 37°}}{\cos 37°}$

20. Which of the following are true?

a) $\sin 45° = 1$
b) $\tan 0° = 1$
c) $\sin 90° = 1$
d) $\tan 90° = 1$
e) $\cos 45° = 1$
f) $\cos 0° = 1$
g) $\sin 0° = 1$
h) $\cos 90° = 1$

(i) {g,f,c} (ii) {a,c} (iii) {c,f} (iv) {b,f} (v) {d,e,c}

21. $\frac{\sec 20°}{\text{cosec}\, 70°} =$

(i) $\tan 70°$ (ii) 0 (iii) 1 (iv) $\tan 20°$ (v) -1

22. $\frac{1-\tan^2 80°}{1+\tan^2 80°} =$

(i) $\cot 160°$ (ii) $\sin 160°$ (iii) $\cos 160°$ (iv) $\tan 160°$

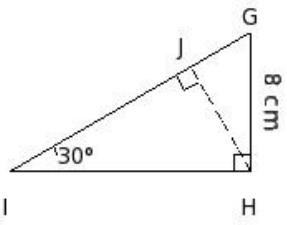
23. $\frac{\cos 51°}{\sin 39°} =$

(i) $\tan 51°$ (ii) 0 (iii) $\tan 39°$ (iv) 1 (v) -1

24. If $\sin(E+F) = \frac{1}{2}\sqrt{3}$ and $\sin(E-F) = \frac{1}{2}$, find $E \& F$

(i) E=43°,F=13° (ii) E=46°,F=16° (iii) E=45°,F=15° (iv) E=44°,F=14° (v) E=47°,F=17°

25. In the given figure, $\triangle$GIH is right angled at H. If GH = 8 cm and $\angle$I = 30°, find GJ



(i) 3 cm (ii) 5 cm (iii) 4 cm (iv) 1 cm (v) 6 cm

Assignment Key

1) (iv)	2) (i)	3) (i)	4) (iv)	5) (iii)	6) (iii)
7) (iv)	8) (iii)	9) (i)	10) (iv)	11) (iii)	12) (iv)
13) (v)	14) (iii)	15) (i)	16) (v)	17) (iv)	18) (i)
19) (i)	20) (iii)	21) (iii)	22) (iii)	23) (iv)	24) (iii)
25) (iii)					