EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Trigonometrical Ratios

Grade : ICSE Grade IX

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1. Given $\cot M = \frac{3}{4}$, find $\tan M$

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

2. $\sec 35° + \operatorname{cosec} 52° =$

   (i) $\operatorname{cosec} 35° + \sec 52°$ (ii) $\sec 35° + \sec 52°$ (iii) $\operatorname{cosec} 55° + \sec 38°$ (iv) $\operatorname{cosec} 55° + \operatorname{cosec} 38°$

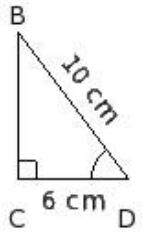
3. Given $\tan E = \frac{3}{4}$, find $\cot E$

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

4. A tower stands vertically on the ground.
   The height of the tower is 170 m.
   The distance between the observation point and its foot is 170 m.
   Find the angle of elevation.

   (i) 60° (ii) 75° (iii) 30° (iv) 105° (v) 45°

5. In the given figure, $\tan D =$



   (i) $\frac{2}{3}$ (ii) 2 (iii) 4 (iv) $\frac{4}{5}$ (v) $\frac{4}{3}$

6. Which of the following are true?

a) $\sin 2A = 2\sin^2 A\cos^2 A$

b) $\cos 2A = \cos^2 A + \sin^2 A$

c) $\cos 2A = \cos^2 A - \sin^2 A$

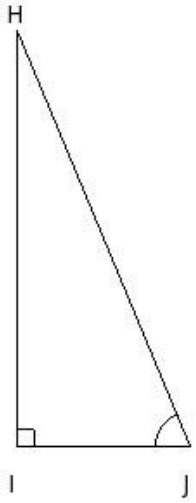
d) $\sin 2A = 2\sin A\cos A$

e) $\tan 2A = \dfrac{2\tan A}{1 + \tan^2 A}$

f) $\tan 2A = \dfrac{2\tan A}{1 - \tan^2 A}$

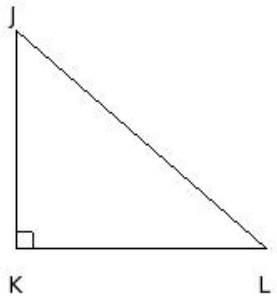
(i) {b,c,d} (ii) {e,a,f} (iii) {c,d,f} (iv) {a,c} (v) {b,d}

7. In the given figure, $\cos J =$



(i) $\frac{JH}{JI}$ (ii) $\frac{KJ}{KI}$ (iii) $\frac{IJ}{IH}$ (iv) $\frac{HJ}{HI}$ (v) $\frac{IJ}{HJ}$

8. From the given figure, find $\sec(90 - L)$



(i) $\frac{KL}{JL}$ (ii) $\frac{JK}{KL}$ (iii) $\frac{JL}{KL}$ (iv) $\frac{JL}{JK}$ (v) $\frac{KL}{JK}$

9. $\dfrac{\sin 60^\circ \cos 10^\circ}{\cos 30^\circ \sin 80^\circ} =$

(i) $\tan 10^\circ$ (ii) -1 (iii) 0 (iv) $\tan 60^\circ$ (v) 1

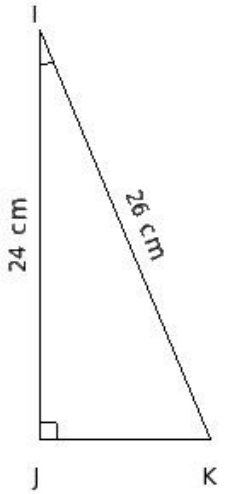
10. $\sec I =$

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

11. $\sin 45° \cos 90° + \cos 45° \sin 90° =$

(i) $\frac{1}{2}\sqrt{4}$ (ii) $\frac{1}{2}\sqrt{2}$ (iii) $\frac{1}{2}\sqrt{\frac{1}{2}}$ (iv) 1 (v) $\frac{1}{2}\sqrt{2}$

12. In the given figure, $\sin I =$



(i) $\frac{1}{3}$ (ii) $\frac{7}{13}$ (iii) $\frac{5}{13}$ (iv) $\frac{3}{13}$ (v) $\frac{5}{11}$

13. Given $\cot P = \sqrt{3}$, find $\tan P$

(i) $\frac{1}{2}\sqrt{3}$ (ii) $\frac{1}{3}\sqrt{3}$ (iii) $\frac{1}{2}$ (iv) 2 (v) $\frac{2}{3}\sqrt{3}$

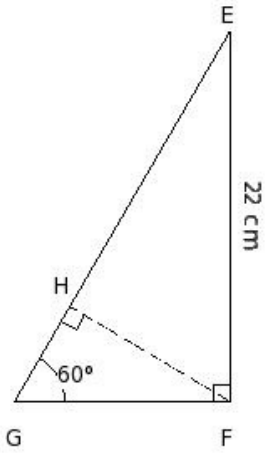
14. Find the value of $\cot 5° \cot 10° \cot 85° \cot 80°$

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

15. Given $\cot C = \sqrt{3}$, find $\sin C$

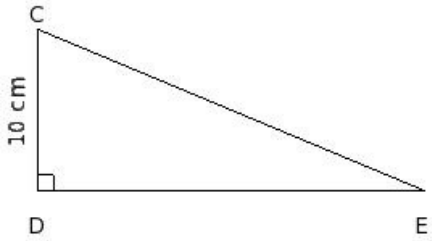
(i) $\frac{1}{2}\sqrt{3}$ (ii) $\frac{2}{3}\sqrt{3}$ (iii) 2 (iv) $\frac{1}{2}$ (v) $\frac{1}{3}\sqrt{3}$

16. In the given figure, $\triangle EGF$ is right angled at F. If EF = 22 cm and $\angle G = 60°$, find GH



(i) $\frac{11}{3}\sqrt{3}$ cm (ii) $\frac{11}{3}\sqrt{18}$ cm (iii) $\frac{11}{3}$ cm (iv) $\frac{11}{2}\sqrt{2}$ cm (v) 11 cm

17. In the given figure, if $CE + DE = 50$ cm, and $CD = 10$ cm, find $\sin C$



(i) $\frac{12}{11}$ (ii) $\frac{12}{13}$ (iii) $\frac{10}{13}$ (iv) $\frac{14}{13}$ (v) $\frac{4}{5}$

18. Given that $5\sin\theta = 4$, find $\cos\theta$

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

19. $\tan(A - B) =$

(i) $\frac{\tan A - \tan B}{1 - \tan A \tan B}$ (ii) $\frac{\tan A + \tan B}{1 + \tan A \tan B}$ (iii) $\frac{\tan A + \tan B}{1 - \tan A \tan B}$ (iv) $\frac{\tan A - \tan B}{1 + \tan A \tan B}$

20. Given that $17\sin\theta = 8$, find $\cot\theta$

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

21. Given $\cot E = \frac{12}{5}$, find $\sec E$

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

22. Given that $3\cot\theta = 4$, find $\tan\theta$

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

23. Given that $5\cos\theta = 3$, find $\sec\theta$

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

24. $\cos 21^\circ \sin 56^\circ - \sin 69^\circ \cos 34^\circ =$

(i) $2\sin 56^\circ$ (ii) 1 (iii) $2\sin 21^\circ$ (iv) -1 (v) 0

25. Given $\cot G = \frac{12}{5}$, find $\cos G$

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

Assignment Key

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

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