EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Introduction to Trigonometry

Grade : CBSE Grade X

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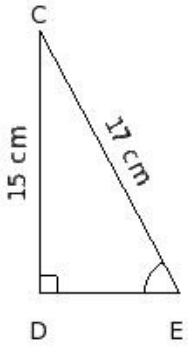
1. In $\triangle FGH$, right angled at G, if $FG = 24$ cm and $GH = 10$ cm, find $\sin H$

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

2. In the given figure, $\sec E =$



   (i) $\frac{17}{8}$ (ii) $\frac{17}{6}$ (iii) $\frac{17}{10}$ (iv) $\frac{19}{8}$ (v) $\frac{15}{8}$

3. Given $\cos E = \frac{3}{5}$, find $\operatorname{cosec} E$

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

4. The value of $\sec 102°$ in terms of an angle between $0°$ and $90°$ is

   (i) $\operatorname{cosec} 12°$ (ii) $\sec 12°$ (iii) $-\sec 12°$ (iv) $-\operatorname{cosec} 12°$

5. Given $\cos C = \frac{3}{8}\sqrt{7}$, find $\cot C$

   (i) $3\sqrt{7}$ (ii) 8 (iii) $\frac{1}{8}$ (iv) $\frac{1}{21}\sqrt{7}$ (v) $\frac{8}{21}\sqrt{7}$

6. Which of the following are true?

   a) $\sin 44° = \cos 46°$
   b) $\sec 34° = \operatorname{cosec} 56°$
   c) $\sin 36° = \cos 36°$
   d) $\cos 40° = \sin 40°$
   e) $\tan 30° = \cot 60°$
   f) $\sin 53° = \cos 37°$
   g) $\sin 23° = \cos 67°$

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

7. Given $\operatorname{cosec} N = \frac{13}{5}$, find $\cos N$

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

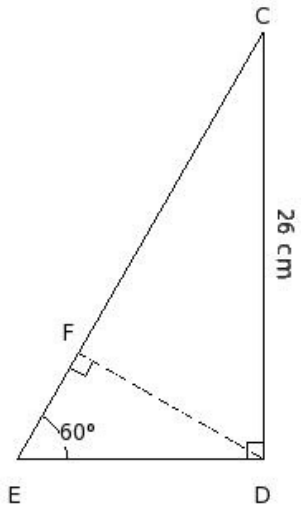
8. Express $\tan\theta$ in terms of $\sec\theta$

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

9. Given $\sin E = \frac{8}{17}$, find $\cot E$

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

10. In the given figure, $\triangle CED$ is right angled at D. If CD = 26 cm and $\angle E = 60°$, find CE



(i) $\frac{52}{3}\sqrt{18}$ cm (ii) 52 cm (iii) $\frac{52}{3}$ cm (iv) $26\sqrt{2}$ cm (v) $\frac{52}{3}\sqrt{3}$ cm

11. Express $\sin 57°$ in terms of $\operatorname{cosec} 57°$

(i) $\frac{\operatorname{cosec} 57°}{\sqrt{\operatorname{cosec}^2 57° - 1}}$ (ii) $\frac{\sqrt{\operatorname{cosec}^2 57° - 1}}{\operatorname{cosec} 57°}$ (iii) $\frac{1}{\operatorname{cosec} 57°}$ (iv) $\frac{1}{\sqrt{\operatorname{cosec}^2 57° - 1}}$ (v) $\sqrt{\operatorname{cosec}^2 57° - 1}$

12. Given $\cot P = \sqrt{3}$, find $\operatorname{cosec} P$

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

13. Find the length of the chord of the unit circle subtending an angle of 118° at the centre

(i) 1.8144 (ii) 1.7144 (iii) 1.7644 (iv) 1.6144

14. Given $\cot P = \frac{12}{5}$, find $\sin P$

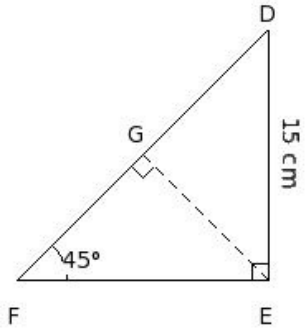
(i) $\frac{5}{12}$ (ii) $\frac{13}{5}$ (iii) $\frac{5}{13}$ (iv) $\frac{12}{13}$ (v) $\frac{13}{12}$

15. Which of the following are true?

a) $\cot(270 - \theta) = \tan\theta$
b) $\cot(270 - \theta) = \cot\theta$
c) $\sec(270 - \theta) = -\sec\theta$
d) $\text{cosec}(270 - \theta) = -\text{cosec}\,\theta$
e) $\sec(270 - \theta) = -\text{cosec}\,\theta$
f) $\text{cosec}(270 - \theta) = -\sec\theta$

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

16. In the given figure, △DFE is right angled at E. If DE = 15 cm and ∠F = 45°, find EF



(i) 18 cm (ii) 15 cm (iii) 12 cm (iv) 16 cm (v) 14 cm

17. Which of the following are true?

a) $\sec(-\theta) = \sec\theta$
b) $\cot(-\theta) = -\cot\theta$
c) $\text{cosec}(-\theta) = \text{cosec}\,\theta$
d) $\sec(-\theta) = -\sec\theta$
e) $\text{cosec}(-\theta) = -\text{cosec}\,\theta$
f) $\cot(-\theta) = \cot\theta$

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

18. Given that $4\,\text{cosec}\,\theta = 5$, find $\cot\theta$

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

19. Given $\sin A = \frac{1}{2}$, find $\tan A$

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

20. $\cos(A - B) =$

(i) $\cos A \cos B - \sin A \sin B$ (ii) $\sin A \cos B - \cos A \sin B$ (iii) $\cos A \cos B + \sin A \sin B$

(iv) $\sin A \cos B + \cos A \sin B$

21. Given $\cot G = \frac{15}{8}$, find $\cos G$

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

22. Which of the following are true?

a) $\tan(B + C) = \tan B + \tan C$
b) The value of $\sin\theta$ increases as θ increases from $0°$ to $90°$
c) $\sin\theta = \cos\theta$ for all θ
d) $\tan\theta = \cot\theta$ for no value of θ
e) $\sin(B + C) = \sin B + \sin C$
f) $\cos(B + C) = \cos B + \cos C$
g) The value of $\cos\theta$ increases as θ increases from $0°$ to $90°$

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

23. $\sec 30° =$

(i) 2 (ii) $2\sqrt{\frac{1}{3}}$ (iii) $2\sqrt{\frac{-1}{3}}$ (iv) $2\sqrt[4]{\frac{1}{3}}$ (v) $\frac{2}{3}$

24. $\cot 60° =$

(i) $\sqrt[4]{\frac{1}{3}}$ (ii) 1 (iii) $\sqrt{\frac{-1}{3}}$ (iv) $\frac{1}{3}$ (v) $\sqrt{\frac{1}{3}}$

25. Given $\tan B = \frac{5}{12}$, find $\sec B$

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

Assignment Key

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

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