

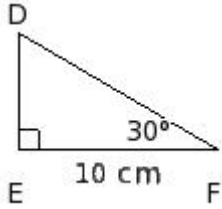
EduSahara™ Learning Center Assignment

Grade : Class IX, ICSE

Chapter : Trigonometrical Ratios

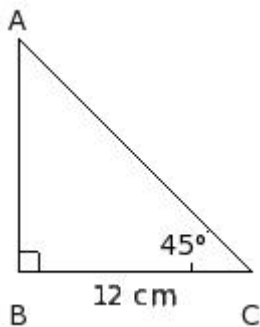
Name : Trigonometry Diagram Problems

1. In the given figure, $\triangle DEF$ is right angled at E. If $EF = 10$ cm and $\angle F = 30^\circ$, find DE and DF



- (i) $\frac{10}{3} \sqrt{3}$ cm & 22 cm
- (ii) $\frac{10}{3} \sqrt{3}$ cm & $\frac{20}{3} \sqrt{3}$ cm
- (iii) $\frac{10}{3} \sqrt{3}$ cm & $\frac{20}{3} \sqrt{3}$ cm
- (iv) $\frac{10}{3} \sqrt{3}$ cm & 20 cm
- (v) $\frac{10}{3} \sqrt{\frac{1}{3}}$ cm & 22 cm

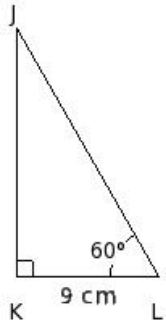
2. In the given figure, $\triangle ABC$ is right angled at B. If $BC = 12$ cm and $\angle C = 45^\circ$, find AB and AC



- (i) 10 cm & 27 cm
- (ii) 12 cm & $12\sqrt{2}$ cm
- (iii) 13 cm & 27 cm
- (iv) 13 cm & 24 cm

(v) 13 cm & $12\sqrt{2}$ cm

3. In the given figure, $\triangle JKL$ is right angled at K. If $KL = 9$ cm and $\angle L = 60^\circ$, find JK and JL



(i) $9\sqrt{3}$ cm & 18 cm

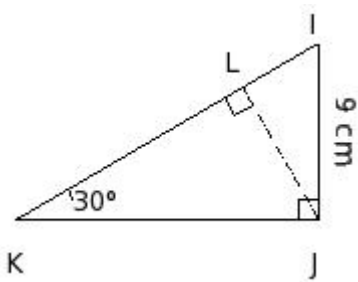
(ii) $9\sqrt{3}$ cm & 20 cm

(iii) $9\sqrt{3}$ cm & 18 cm

(iv) $9\sqrt{\frac{1}{3}}$ cm & 20 cm

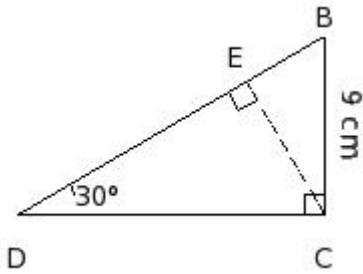
(v) $9\sqrt{3}$ cm & 17 cm

4. In the given figure, $\triangle IKJ$ is right angled at J. If $IJ = 9$ cm and $\angle K = 30^\circ$, find IK



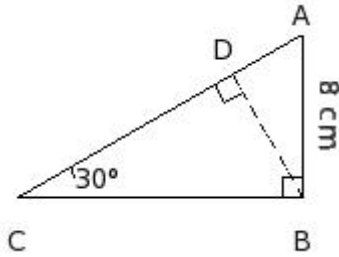
(i) 17 cm (ii) 16 cm (iii) 21 cm (iv) 18 cm (v) 19 cm

5. In the given figure, $\triangle BDC$ is right angled at C. If $BC = 9$ cm and $\angle D = 30^\circ$, find CD



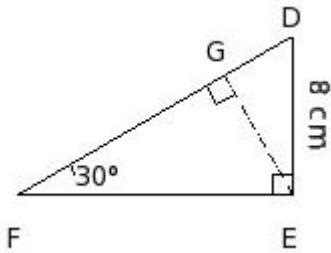
- (i) $\frac{27}{2} \sqrt{2}$ cm (ii) 9 cm (iii) 27 cm (iv) $9 \sqrt{18}$ cm (v) $9 \sqrt{3}$ cm

6. In the given figure, $\triangle ACB$ is right angled at B. If $AB = 8$ cm and $\angle C = 30^\circ$, find AD



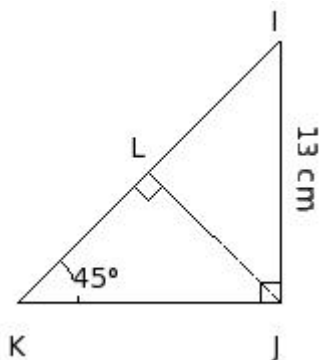
- (i) 4 cm (ii) 3 cm (iii) 5 cm (iv) 6 cm (v) 1 cm

7. In the given figure, $\triangle DFE$ is right angled at E. If $DE = 8$ cm and $\angle F = 30^\circ$, find FG



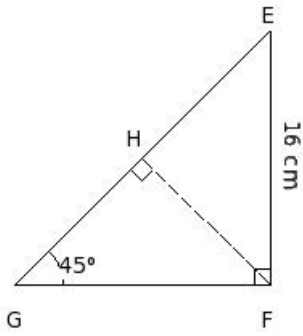
- (i) 12 cm (ii) 11 cm (iii) 9 cm (iv) 15 cm (v) 13 cm

8. In the given figure, $\triangle IKJ$ is right angled at J. If $IJ = 13$ cm and $\angle K = 45^\circ$, find IK



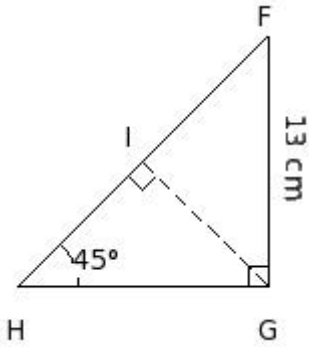
- (i) 26 cm (ii) $26 \sqrt{3}$ cm (iii) 13 cm (iv) $\frac{13}{2} \sqrt{12}$ cm (v) $13 \sqrt{2}$ cm

9. In the given figure, $\triangle EGF$ is right angled at F. If $EF = 16$ cm and $\angle G = 45^\circ$, find FG



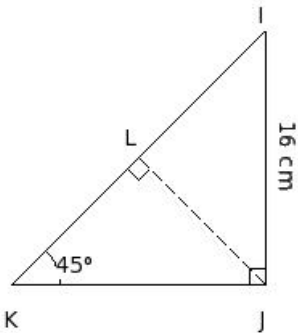
- (i) 13 cm (ii) 19 cm (iii) 16 cm (iv) 15 cm (v) 17 cm

10. In the given figure, $\triangle FHG$ is right angled at G. If $FG = 13$ cm and $\angle H = 45^\circ$, find FI



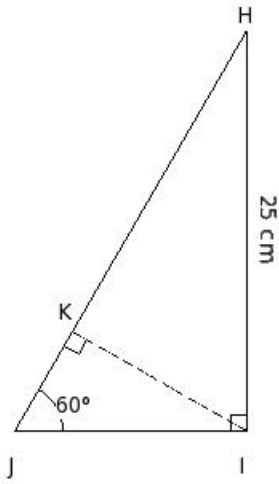
- (i) $13\sqrt{3}$ cm (ii) $\frac{13}{2}\sqrt{2}$ cm (iii) $\frac{13}{4}\sqrt{12}$ cm (iv) $\frac{13}{2}$ cm (v) 13 cm

11. In the given figure, $\triangle IKJ$ is right angled at J. If $IJ = 16$ cm and $\angle K = 45^\circ$, find KL



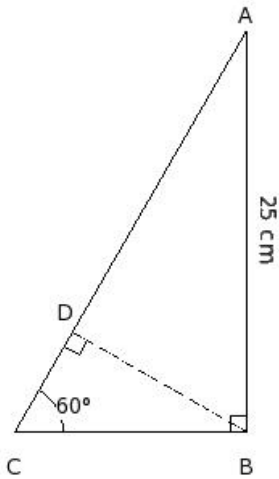
- (i) $8\sqrt{2}$ cm (ii) 16 cm (iii) $4\sqrt{12}$ cm (iv) 8 cm (v) $16\sqrt{3}$ cm

12. In the given figure, $\triangle HJI$ is right angled at I. If $HI = 25$ cm and $\angle J = 60^\circ$, find HJ



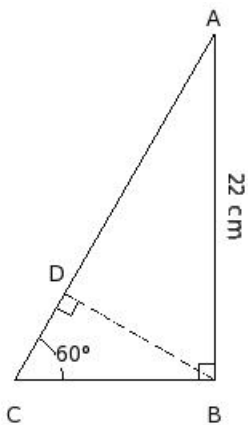
- (i) $25\sqrt{2}$ cm (ii) $\frac{50}{3}\sqrt{3}$ cm (iii) 50 cm (iv) $\frac{50}{3}\sqrt{18}$ cm (v) $\frac{50}{3}$ cm

13. In the given figure, $\triangle ACB$ is right angled at B. If $AB = 25$ cm and $\angle C = 60^\circ$, find BC



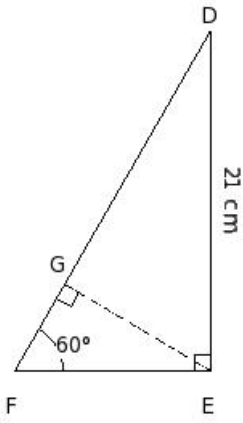
- (i) $\frac{25}{3}\sqrt{3}$ cm (ii) 25 cm (iii) $\frac{25}{3}$ cm (iv) $\frac{25}{3}\sqrt{18}$ cm (v) $\frac{25}{2}\sqrt{2}$ cm

14. In the given figure, $\triangle ACB$ is right angled at B. If $AB = 22$ cm and $\angle C = 60^\circ$, find AD



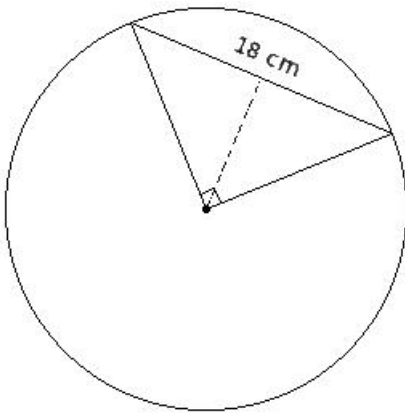
- (i) $\frac{33}{2}\sqrt{2}$ cm (ii) $11\sqrt{18}$ cm (iii) 11 cm (iv) $11\sqrt{3}$ cm (v) 33 cm

15. In the given figure, $\triangle DFE$ is right angled at E. If $DE = 21$ cm and $\angle F = 60^\circ$, find FG



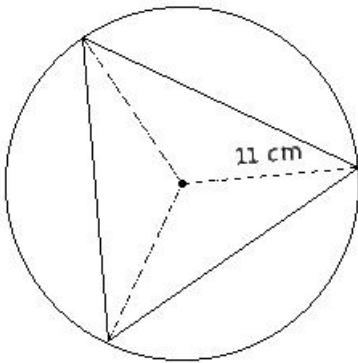
- (i) $\frac{7}{2} \sqrt{3}$ cm (ii) $\frac{21}{2}$ cm (iii) $\frac{21}{4} \sqrt{2}$ cm (iv) $\frac{7}{2} \sqrt{18}$ cm (v) $\frac{7}{2}$ cm

16. A chord of 18 cm subtends an angle of 90° at the centre. Calculate its shortest distance from the centre



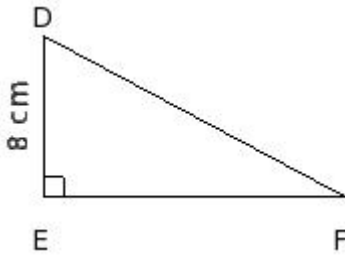
- (i) 7.0 cm (ii) 10.0 cm (iii) 9.0 cm (iv) 8.0 cm (v) 11.0 cm

17. An equilateral triangle is inscribed in a circle of radius 11 cm. Find the length of its sides



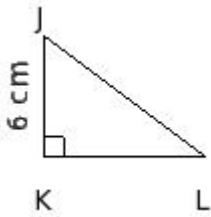
- (i) 11 cm (ii) 33 cm (iii) $\frac{33}{2} \sqrt{2}$ cm (iv) $11 \sqrt{3}$ cm (v) $11 \sqrt{18}$ cm

18. In the given figure, if $DF - EF = 2$ cm, and $DE = 8$ cm, find $\sin D$



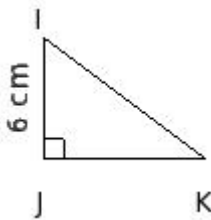
- (i) $\frac{15}{19}$ (ii) $\frac{13}{17}$ (iii) $\frac{15}{17}$ (iv) 1

19. In the given figure, if $JL - KL = 2$ cm , and $JK = 6$ cm , find $\cos J$



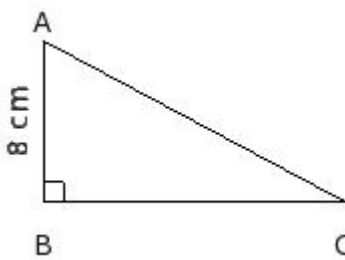
- (i) 1 (ii) $\frac{1}{5}$ (iii) $\frac{3}{7}$ (iv) $\frac{3}{5}$

20. In the given figure, if $IK - JK = 2$ cm , and $IJ = 6$ cm , find $\tan I$



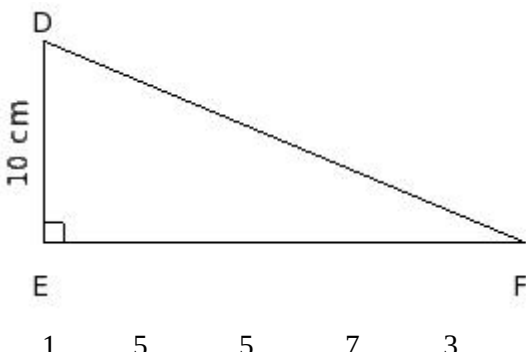
- (i) $\frac{2}{3}$ (ii) 2 (iii) $\frac{4}{5}$ (iv) $\frac{4}{3}$ (v) 4

21. In the given figure, if $AC + BC = 32$ cm , and $AB = 8$ cm , find $\sin A$



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

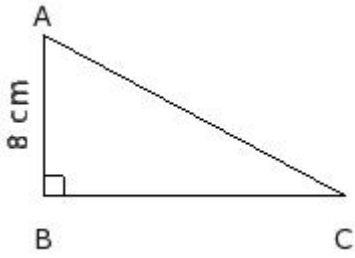
22. In the given figure, if $DF + EF = 50$ cm , and $DE = 10$ cm , find $\cos D$



1 5 5 7 3

- (i) $\frac{3}{13}$ (ii) $\frac{11}{13}$ (iii) $\frac{11}{13}$ (iv) $\frac{13}{13}$ (v) $\frac{13}{13}$

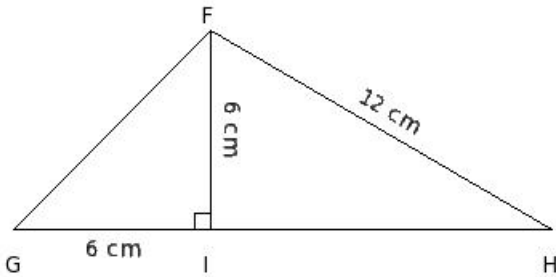
23. In the given figure, if $AC + BC = 32$ cm, and $AB = 8$ cm, find $\tan A$



- (i) $\frac{13}{8}$ (ii) $\frac{3}{2}$ (iii) $\frac{5}{2}$ (iv) $\frac{15}{8}$ (v) $\frac{17}{8}$

The altitude FI of $\triangle FGH$ in which $\angle F$ is obtuse is 6 cm.

24. If $GI = 6$ cm and $HI = 6\sqrt{3}$ cm, find $\angle GFH$



- (i) 120° (ii) 105° (iii) 110° (iv) 100° (v) 115°

Assignment Key

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