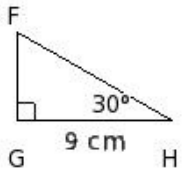
EduSahara™ Assignment

Name : Trigonometry Diagram Problems

Chapter : Introduction to Trigonometry

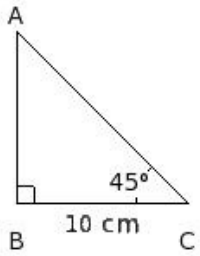
Grade : CBSE Grade X

1. In the given figure, △FGH is right angled at G. If GH = 9 cm and ∠H = 30°, find FG and FH



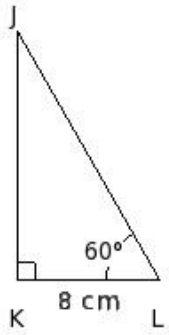
(i) 3 cm & 21 cm (ii) $3\sqrt{3}$ cm & 21 cm (iii) $3\sqrt{3}$ cm & $6\sqrt{3}$ cm (iv) $3\sqrt{3}$ cm & 18 cm (v) $3\sqrt{3}$ cm & $6\sqrt{3}$ cm

2. In the given figure, △ABC is right angled at B. If BC = 10 cm and ∠C = 45°, find AB and AC



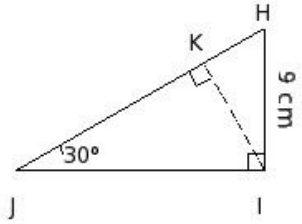
(i) 11 cm & 20 cm (ii) 11 cm & $10\sqrt{2}$ cm (iii) 11 cm & 22 cm (iv) 8 cm & 22 cm (v) 10 cm & $10\sqrt{2}$ cm

3. In the given figure, △JKL is right angled at K. If KL = 8 cm and ∠L = 60°, find JK and JL



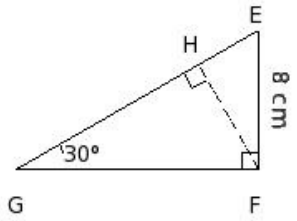
(i) $8\sqrt{3}$ cm & 15 cm (ii) $8\sqrt{3}$ cm & 16 cm (iii) $8\sqrt{3}$ cm & 16 cm (iv) 8 cm & 17 cm (v) $8\sqrt{3}$ cm & 17 cm

4. In the given figure, △HJI is right angled at I. If HI = 9 cm and ∠J = 30°, find HJ



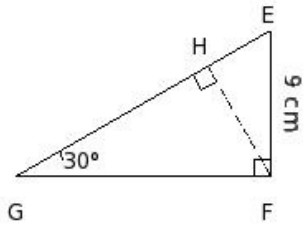
(i) 15 cm (ii) 18 cm (iii) 20 cm (iv) 17 cm (v) 19 cm

5. In the given figure, △EGF is right angled at F. If EF = 8 cm and ∠G = 30°, find FG



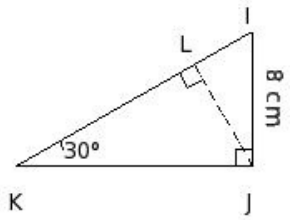
(i) $8\sqrt{18}$ cm (ii) $8\sqrt{3}$ cm (iii) 24 cm (iv) $12\sqrt{2}$ cm (v) 8 cm

6. In the given figure, △EGF is right angled at F. If EF = 9 cm and ∠G = 30°, find EH



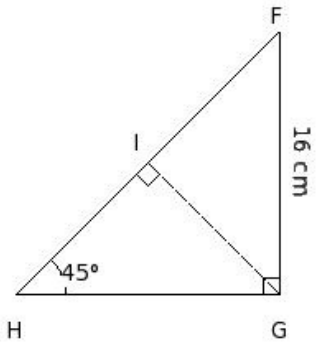
(i) $\frac{11}{2}$ cm (ii) 5 cm (iii) $\frac{17}{4}$ cm (iv) $\frac{9}{2}$ cm (v) $\frac{7}{2}$ cm

7. In the given figure, △IKJ is right angled at J. If IJ = 8 cm and ∠K = 30°, find KL



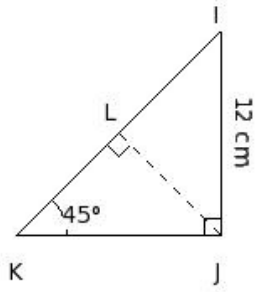
(i) 13 cm (ii) 12 cm (iii) 14 cm (iv) 11 cm (v) 10 cm

8. In the given figure, △FHG is right angled at G. If FG = 16 cm and ∠H = 45°, find FH



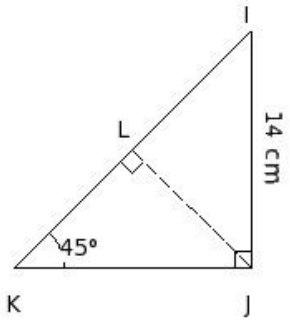
(i) $8\sqrt{12}$ cm (ii) $32\sqrt{3}$ cm (iii) $16\sqrt{2}$ cm (iv) 32 cm (v) 16 cm

9. In the given figure, △IKJ is right angled at J. If IJ = 12 cm and ∠K = 45°, find JK



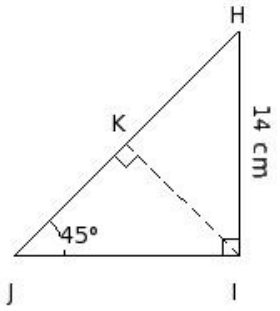
(i) 11 cm (ii) 13 cm (iii) 9 cm (iv) 12 cm (v) 15 cm

10. In the given figure, △IKJ is right angled at J. If IJ = 14 cm and ∠K = 45°, find IL



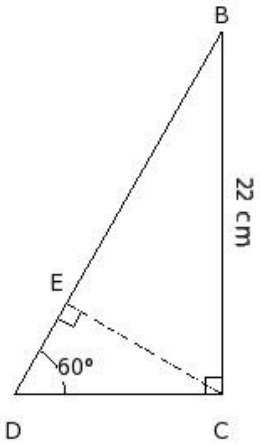
(i) $\frac{7}{2}\sqrt{12}$ cm (ii) $7\sqrt{2}$ cm (iii) $14\sqrt{3}$ cm (iv) 14 cm (v) 7 cm

11. In the given figure, △HJI is right angled at I. If HI = 14 cm and ∠J = 45°, find JK



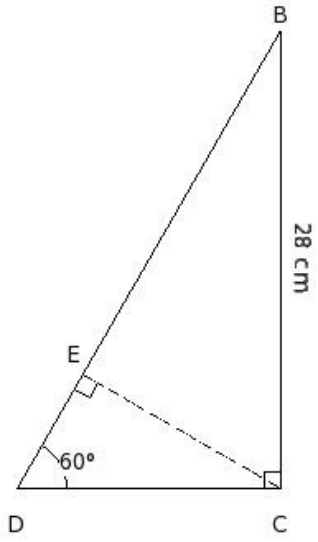
(i) 14 cm (ii) $7\sqrt{2}$ cm (iii) $\frac{7}{2}\sqrt{12}$ cm (iv) 7 cm (v) $14\sqrt{3}$ cm

12. In the given figure, △BDC is right angled at C. If BC = 22 cm and ∠D = 60°, find BD



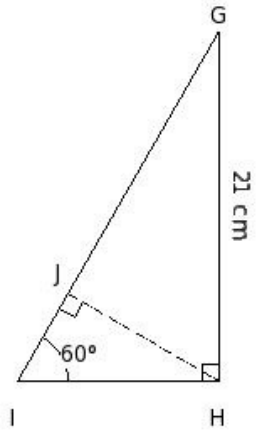
(i) $22\sqrt{2}$ cm (ii) $\frac{44}{3}$ cm (iii) $\frac{44}{3}\sqrt{18}$ cm (iv) 44 cm (v) $\frac{44}{3}\sqrt{3}$ cm

13. In the given figure, △BDC is right angled at C. If BC = 28 cm and ∠D = 60°, find CD



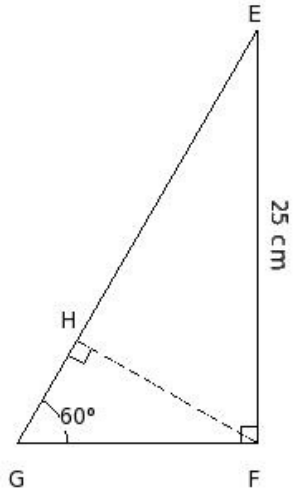
(i) $\frac{28}{3}$ cm (ii) $\frac{28}{3}\sqrt{3}$ cm (iii) $\frac{28}{3}\sqrt{18}$ cm (iv) 28 cm (v) $14\sqrt{2}$ cm

14. In the given figure, △GIH is right angled at H. If GH = 21 cm and ∠I = 60°, find GJ



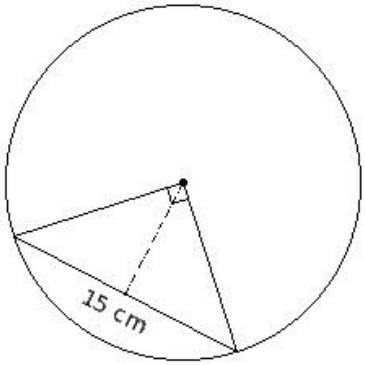
(i) $\frac{21}{2}$ cm (ii) $\frac{21}{2}\sqrt{3}$ cm (iii) $\frac{63}{2}$ cm (iv) $\frac{63}{4}\sqrt{2}$ cm (v) $\frac{21}{2}\sqrt{18}$ cm

15. In the given figure, △EGF is right angled at F. If EF = 25 cm and ∠G = 60°, find GH



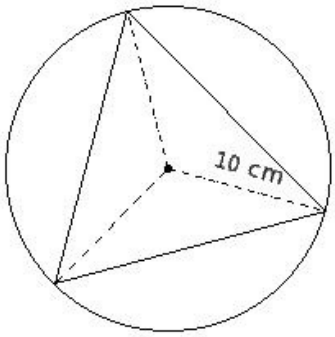
(i) $\frac{25}{4}\sqrt{2}$ cm (ii) $\frac{25}{6}\sqrt{18}$ cm (iii) $\frac{25}{6}$ cm (iv) $\frac{25}{2}$ cm (v) $\frac{25}{6}\sqrt{3}$ cm

16. A chord of 15 cm subtends an angle of 90° at the centre. Calculate its shortest distance from the centre



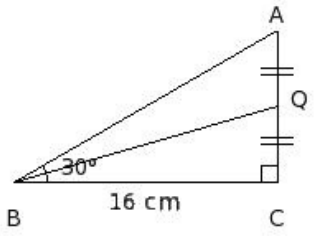
(i) 9.5 cm (ii) 6.5 cm (iii) 5.5 cm (iv) 7.5 cm (v) 8.5 cm

17. An equilateral triangle is inscribed in a circle of radius 10 cm. Find the length of its sides.



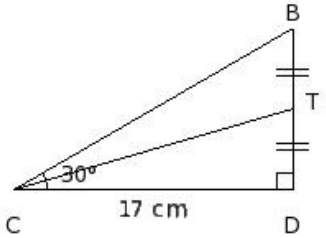
(i) 30 cm (ii) $15\sqrt{2}$ cm (iii) 10 cm (iv) $10\sqrt{3}$ cm (v) $10\sqrt{18}$ cm

18. In the given figure, △ABC is a right angle triangle with ∠C = 90° and BC = 16 cm. Q is the mid-point of AC. Find QC



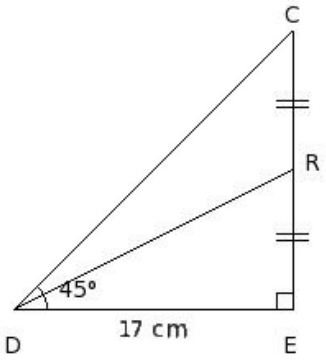
(i) $4\sqrt{2}$ cm (ii) $\frac{8}{3}\sqrt{18}$ cm (iii) $\frac{8}{3}\sqrt{3}$ cm (iv) $\frac{8}{3}$ cm (v) 8 cm

19. In the given figure, △BCD is a right angle triangle with ∠D = 90° and CD = 17 cm. T is the mid-point of BD. Find the length of the altitude from D to BC.



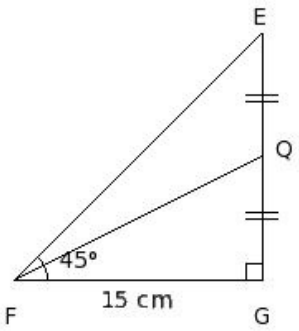
(i) 9 cm (ii) $\frac{33}{4}$ cm (iii) $\frac{15}{2}$ cm (iv) $\frac{17}{2}$ cm (v) $\frac{19}{2}$ cm

20. In the given figure, △CDE is a right angle triangle with ∠E = 90° and DE = 17 cm. R is the mid-point of CE. Find RE



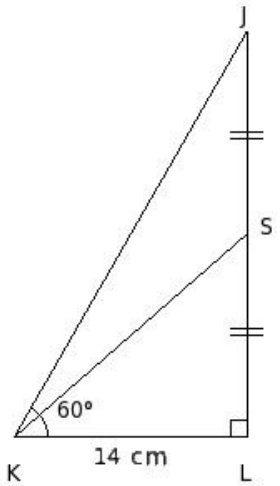
(i) $\frac{33}{4}$ cm (ii) $\frac{17}{2}$ cm (iii) $\frac{19}{2}$ cm (iv) 9 cm (v) $\frac{15}{2}$ cm

21. In the given figure, △EFG is a right angle triangle with ∠G = 90° and FG = 15 cm. Q is the mid-point of EG. Find the length of the altitude from G to EF.



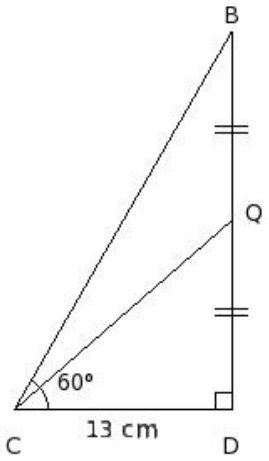
(i) $\frac{15}{4}\sqrt{12}$ cm (ii) $15\sqrt{3}$ cm (iii) $\frac{15}{2}$ cm (iv) $\frac{15}{2}\sqrt{2}$ cm (v) 15 cm

22. In the given figure, △JKL is a right angle triangle with ∠L = 90° and KL = 14 cm. S is the mid-point of JL. Find SL



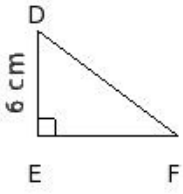
(i) $7\sqrt{18}$ cm (ii) 7 cm (iii) $7\sqrt{3}$ cm (iv) 21 cm (v) $\frac{21}{2}\sqrt{2}$ cm

23. In the given figure, $\triangle BCD$ is a right angle triangle with $\angle D = 90°$ and CD = 13 cm. Q is the mid-point of BD. Find the length of the altitude from D to BC.



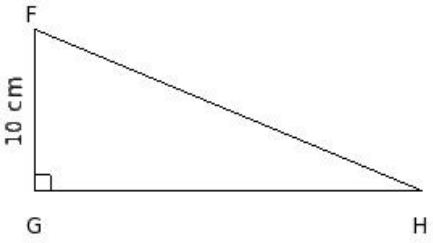
(i) $\frac{39}{4}\sqrt{2}$ cm (ii) $\frac{39}{2}$ cm (iii) $\frac{13}{2}$ cm (iv) $\frac{13}{2}\sqrt{3}$ cm (v) $\frac{13}{2}\sqrt{18}$ cm

24. In the given figure, if $DF - EF = 2$ cm, and $DE = 6$ cm, find $\sin D$



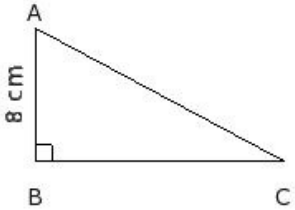
(i) $\frac{2}{5}$ (ii) $\frac{4}{5}$ (iii) $\frac{6}{5}$ (iv) $\frac{4}{7}$ (v) $\frac{4}{3}$

25. In the given figure, if $FH - GH = 2$ cm, and $FG = 10$ cm, find $\cos F$



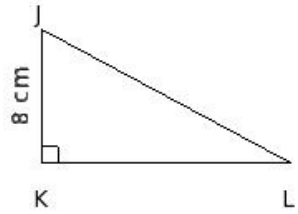
(i) $\frac{5}{11}$ (ii) $\frac{7}{13}$ (iii) $\frac{1}{3}$ (iv) $\frac{3}{13}$ (v) $\frac{5}{13}$

26. In the given figure, if $AC - BC = 2$ cm, and $AB = 8$ cm, find $\tan A$



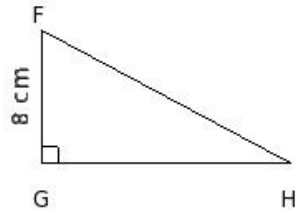
(i) $\frac{17}{8}$ (ii) $\frac{13}{8}$ (iii) $\frac{15}{8}$ (iv) $\frac{5}{2}$ (v) $\frac{3}{2}$

27. In the given figure, if $JL + KL = 32$ cm, and $JK = 8$ cm, find $\sin J$



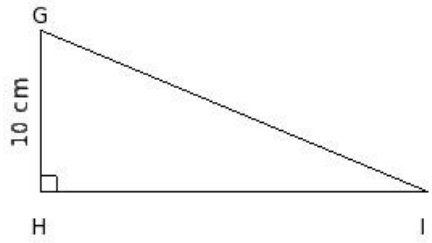
(i) $\frac{15}{17}$ (ii) 1 (iii) $\frac{15}{19}$ (iv) $\frac{13}{17}$

28. In the given figure, if $FH + GH = 32$ cm, and $FG = 8$ cm, find $\cos F$



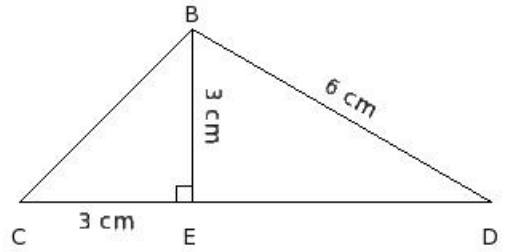
(i) $\frac{6}{17}$ (ii) $\frac{10}{17}$ (iii) $\frac{8}{17}$ (iv) $\frac{8}{15}$ (v) $\frac{8}{19}$

29. In the given figure, if $GI + HI = 50$ cm, and $GH = 10$ cm, find $\tan G$



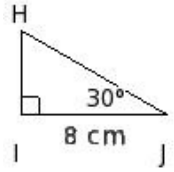
(i) 2 (ii) $\frac{12}{7}$ (iii) $\frac{12}{5}$ (iv) 4 (v) $\frac{14}{5}$

30. The altitude BE of $\triangle BCD$ in which $\angle B$ is obtuse is 3 cm. If CE = 3 cm and $DE = 3\sqrt{3}$ cm, find $\angle CBD$



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

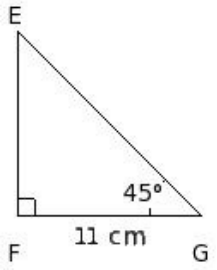
31. In the given figure, $\triangle HIJ$ is right angled at I. If IJ = 8 cm and $\angle J = 30°$, find HI and HJ



(i) $\frac{8}{3}\sqrt{3}$ cm & 18 cm (ii) $\frac{8}{3}\sqrt{3}$ cm & $\frac{16}{3}\sqrt{3}$ cm (iii) $\frac{8}{3}\sqrt{3}$ cm & 18 cm (iv) $\frac{8}{3}\sqrt{3}$ cm & $\frac{16}{3}\sqrt{3}$ cm

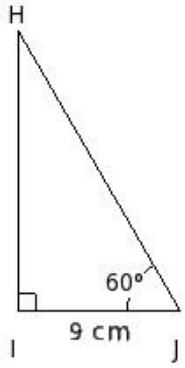
(v) $\frac{8}{3}\sqrt{3}$ cm & 16 cm

32. In the given figure, △EFG is right angled at F. If FG = 11 cm and ∠G = 45°, find EF and EG



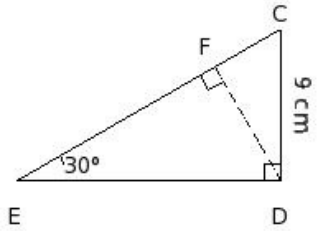
(i) 12 cm & 22 cm (ii) 9 cm & 25 cm (iii) 11 cm & $11\sqrt{2}$ cm (iv) 12 cm & $11\sqrt{2}$ cm (v) 12 cm & 25 cm

33. In the given figure, △HIJ is right angled at I. If IJ = 9 cm and ∠J = 60°, find HI and HJ



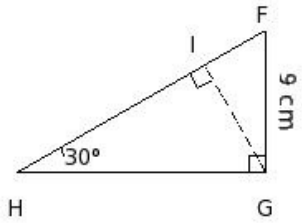
(i) $9\sqrt[4]{3}$ cm & 20 cm (ii) 9 cm & 20 cm (iii) $9\sqrt[4]{3}$ cm & 18 cm (iv) $9\sqrt{3}$ cm & 18 cm (v) $9\sqrt[4]{3}$ cm & 17 cm

34. In the given figure, △CED is right angled at D. If CD = 9 cm and ∠E = 30°, find CE



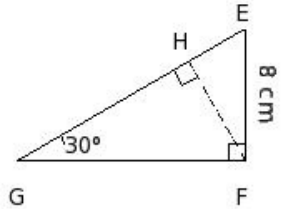
(i) 21 cm (ii) 15 cm (iii) 19 cm (iv) 17 cm (v) 18 cm

35. In the given figure, △FHG is right angled at G. If FG = 9 cm and ∠H = 30°, find GH



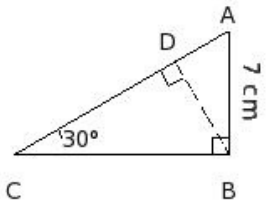
(i) $9\sqrt{3}$ cm (ii) 27 cm (iii) 9 cm (iv) $\frac{27}{2}\sqrt{2}$ cm (v) $9\sqrt{18}$ cm

36. In the given figure, △EGF is right angled at F. If EF = 8 cm and ∠G = 30°, find EH



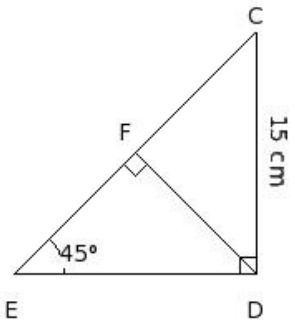
(i) 3 cm (ii) 4 cm (iii) 7 cm (iv) 1 cm (v) 5 cm

37. In the given figure, △ACB is right angled at B. If AB = 7 cm and ∠C = 30°, find CD



(i) 21 cm (ii) $\frac{21}{2}$ cm (iii) $\frac{23}{2}$ cm (iv) $\frac{19}{2}$ cm (v) $\frac{21}{4}$ cm

38. In the given figure, △CED is right angled at D. If CD = 15 cm and ∠E = 45°, find CE



(i) 30 cm (ii) $\frac{15}{2}\sqrt{12}$ cm (iii) $15\sqrt{2}$ cm (iv) $30\sqrt{3}$ cm (v) 15 cm

Assignment Key

1) (v)	2) (v)	3) (iii)	4) (ii)	5) (ii)	6) (iv)
7) (ii)	8) (iii)	9) (iv)	10) (ii)	11) (ii)	12) (v)
13) (ii)	14) (ii)	15) (v)	16) (iv)	17) (iv)	18) (iii)
19) (iv)	20) (ii)	21) (iv)	22) (iii)	23) (iv)	24) (ii)
25) (v)	26) (iii)	27) (i)	28) (iii)	29) (iii)	30) (iv)
31) (ii)	32) (iii)	33) (iv)	34) (v)	35) (i)	36) (ii)
37) (ii)	38) (iii)				