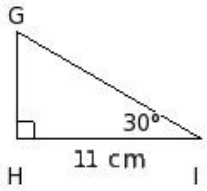
EduSahara™ Assignment

Name : Trigonometry Diagram Problems

Chapter : Trigonometry

Grade : SSC Grade X

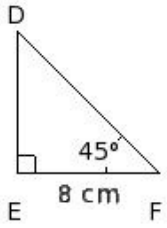
1. In the given figure, △GHI is right angled at H. If HI = 11 cm and ∠I = 30°, find GH and GI



(i) $\frac{11}{3}\sqrt{3}$ cm & 22 cm (ii) $\frac{11}{3}\sqrt{\frac{4}{3}}$ cm & 25 cm (iii) $\frac{11}{3}\sqrt{3}$ cm & $\frac{22}{3}\sqrt{3}$ cm (iv) $\frac{11}{3}\sqrt{3}$ cm & 25 cm

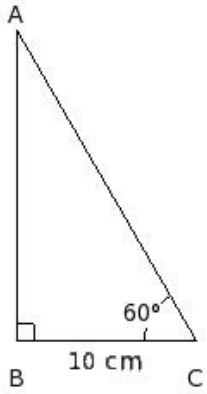
(v) $\frac{11}{3}\sqrt{3}$ cm & $\frac{22}{3}\sqrt{3}$ cm

2. In the given figure, △DEF is right angled at E. If EF = 8 cm and ∠F = 45°, find DE and DF



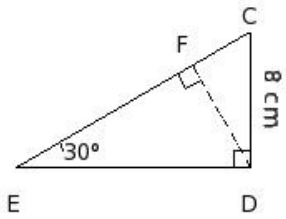
(i) 9 cm & 18 cm (ii) 9 cm & $8\sqrt{2}$ cm (iii) 8 cm & $8\sqrt{2}$ cm (iv) 6 cm & 18 cm (v) 9 cm & 16 cm

3. In the given figure, △ABC is right angled at B. If BC = 10 cm and ∠C = 60°, find AB and AC



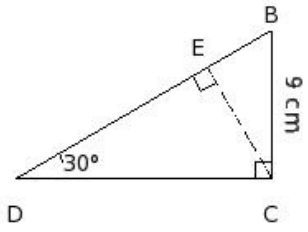
(i) $10\sqrt{3}$ cm & 20 cm (ii) $10\sqrt{3}$ cm & 22 cm (iii) $10\sqrt{\frac{4}{3}}$ cm & 22 cm (iv) $10\sqrt{3}$ cm & 19 cm (v) $10\sqrt{3}$ cm & 20 cm

4. In the given figure, △CED is right angled at D. If CD = 8 cm and ∠E = 30°, find CE



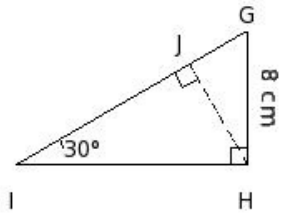
(i) 17 cm (ii) 14 cm (iii) 18 cm (iv) 16 cm (v) 15 cm

5. In the given figure, △BDC is right angled at C. If BC = 9 cm and ∠D = 30°, find CD



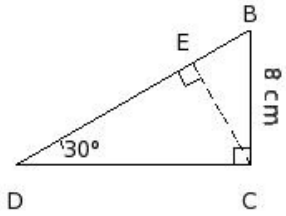
(i) 27 cm (ii) $\frac{27}{2}\sqrt{2}$ cm (iii) $9\sqrt{18}$ cm (iv) $9\sqrt{3}$ cm (v) 9 cm

6. In the given figure, △GIH is right angled at H. If GH = 8 cm and ∠I = 30°, find GJ



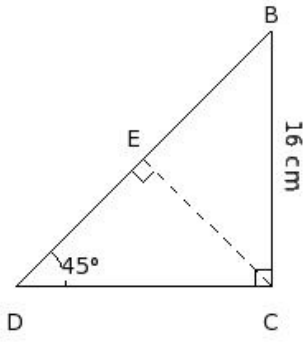
(i) 2 cm (ii) 5 cm (iii) 7 cm (iv) 3 cm (v) 4 cm

7. In the given figure, △BDC is right angled at C. If BC = 8 cm and ∠D = 30°, find DE



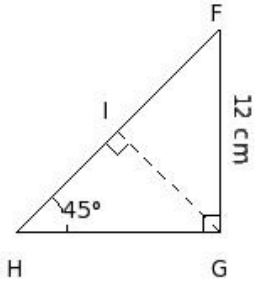
(i) 14 cm (ii) 13 cm (iii) 11 cm (iv) 10 cm (v) 12 cm

8. In the given figure, △BDC is right angled at C. If BC = 16 cm and ∠D = 45°, find BD



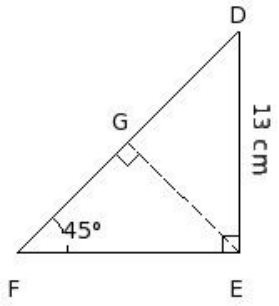
(i) $32\sqrt{3}$ cm (ii) 16 cm (iii) $8\sqrt{12}$ cm (iv) 32 cm (v) $16\sqrt{2}$ cm

9. In the given figure, △FHG is right angled at G. If FG = 12 cm and ∠H = 45°, find GH



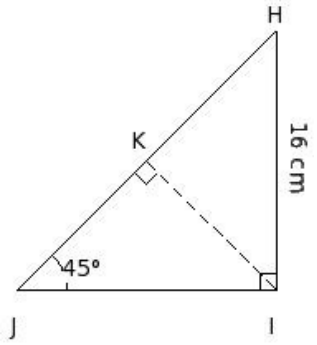
(i) 11 cm (ii) 14 cm (iii) 13 cm (iv) 12 cm (v) 9 cm

10. In the given figure, △DFE is right angled at E. If DE = 13 cm and ∠F = 45°, find DG



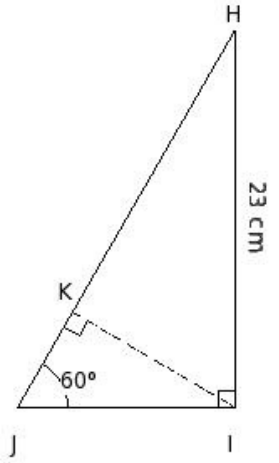
(i) $13\,\text{cm}$ (ii) $\frac{13}{4}\sqrt{12}\,\text{cm}$ (iii) $\frac{13}{2}\,\text{cm}$ (iv) $13\sqrt{3}\,\text{cm}$ (v) $\frac{13}{2}\sqrt{2}\,\text{cm}$

11. In the given figure, △HJI is right angled at I. If HI = 16 cm and ∠J = 45°, find JK



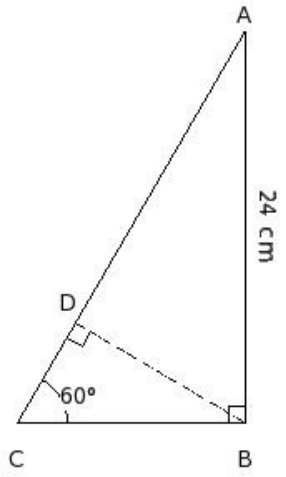
(i) $16\,\text{cm}$ (ii) $8\sqrt{2}\,\text{cm}$ (iii) $16\sqrt{3}\,\text{cm}$ (iv) $8\,\text{cm}$ (v) $4\sqrt{12}\,\text{cm}$

12. In the given figure, △HJI is right angled at I. If HI = 23 cm and ∠J = 60°, find HJ



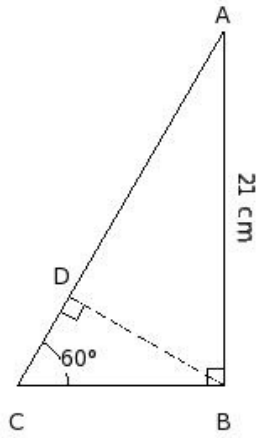
(i) $46\,\text{cm}$ (ii) $23\sqrt{2}\,\text{cm}$ (iii) $\frac{46}{3}\,\text{cm}$ (iv) $\frac{46}{3}\sqrt{3}\,\text{cm}$ (v) $\frac{46}{3}\sqrt{18}\,\text{cm}$

13. In the given figure, △ACB is right angled at B. If AB = 24 cm and ∠C = 60°, find BC



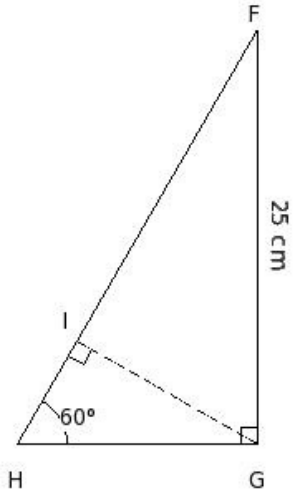
(i) 8 cm (ii) $8\sqrt{3}$ cm (iii) $12\sqrt{2}$ cm (iv) $8\sqrt{18}$ cm (v) 24 cm

14. In the given figure, △ACB is right angled at B. If AB = 21 cm and ∠C = 60°, find AD



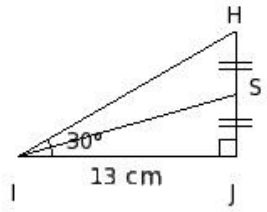
(i) $\frac{63}{4}\sqrt{2}$ cm (ii) $\frac{21}{2}\sqrt{18}$ cm (iii) $\frac{21}{2}\sqrt{3}$ cm (iv) $\frac{21}{2}$ cm (v) $\frac{63}{2}$ cm

15. In the given figure, △FHG is right angled at G. If FG = 25 cm and ∠H = 60°, find HI



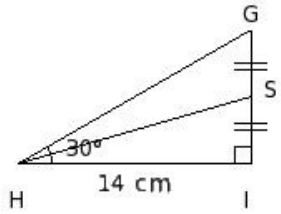
(i) $\frac{25}{6}$ cm (ii) $\frac{25}{6}\sqrt{3}$ cm (iii) $\frac{25}{4}\sqrt{2}$ cm (iv) $\frac{25}{6}\sqrt{18}$ cm (v) $\frac{25}{2}$ cm

16. In the given figure, △HIJ is a right angle triangle with ∠J = 90° and IJ = 13 cm. S is the mid-point of HJ. Find SJ



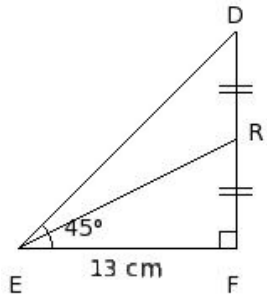
(i) $\frac{13}{6}$ cm (ii) $\frac{13}{6}\sqrt{3}$ cm (iii) $\frac{13}{2}$ cm (iv) $\frac{13}{4}\sqrt{2}$ cm (v) $\frac{13}{6}\sqrt{18}$ cm

17. In the given figure, △GHI is a right angle triangle with ∠I = 90° and HI = 14 cm. S is the mid-point of GI. Find the length of the altitude from I to GH.



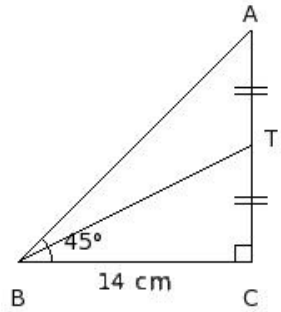
(i) 7 cm (ii) 6 cm (iii) 10 cm (iv) 8 cm (v) 4 cm

18. In the given figure, △DEF is a right angle triangle with ∠F = 90° and EF = 13 cm. R is the mid-point of DF. Find RF



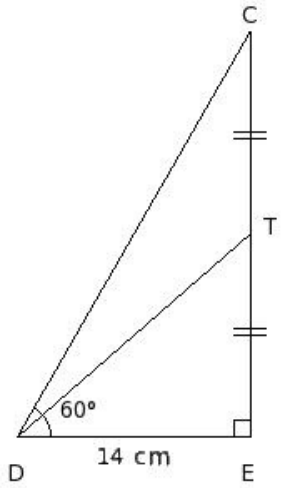
(i) 7 cm (ii) $\frac{11}{2}$ cm (iii) $\frac{25}{4}$ cm (iv) $\frac{13}{2}$ cm (v) $\frac{15}{2}$ cm

19. In the given figure, △ABC is a right angle triangle with ∠C = 90° and BC = 14 cm. T is the mid-point of AC. Find the length of the altitude from C to AB.



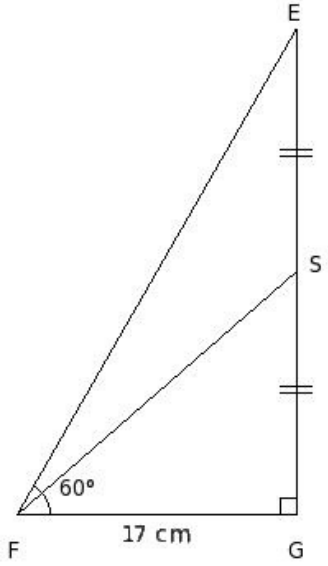
(i) $14\sqrt{3}$ cm (ii) $7\sqrt{2}$ cm (iii) $\frac{7}{2}\sqrt{12}$ cm (iv) 7 cm (v) 14 cm

20. In the given figure, △CDE is a right angle triangle with ∠E = 90° and DE = 14 cm. T is the mid-point of CE. Find TE



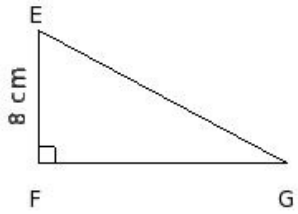
(i) $7\sqrt{3}$ cm (ii) 21 cm (iii) $7\sqrt{18}$ cm (iv) $\frac{21}{2}\sqrt{2}$ cm (v) 7 cm

21. In the given figure, △EFG is a right angle triangle with ∠G = 90° and FG = 17 cm. S is the mid-point of EG. Find the length of the altitude from G to EF.



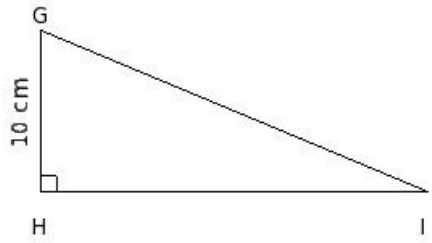
(i) $\frac{51}{2}$ cm (ii) $\frac{17}{2}$ cm (iii) $\frac{17}{2}\sqrt{3}$ cm (iv) $\frac{51}{4}\sqrt{2}$ cm (v) $\frac{17}{2}\sqrt{18}$ cm

22. In the given figure, if $EG - FG = 2$ cm, and $EF = 8$ cm, find $\sin E$



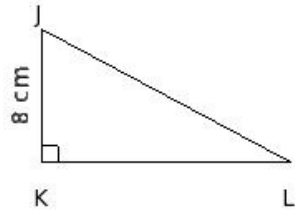
(i) 1 (ii) $\frac{15}{19}$ (iii) $\frac{15}{17}$ (iv) $\frac{13}{17}$

23. In the given figure, if $GI - HI = 2$ cm, and $GH = 10$ cm, find $\cos G$



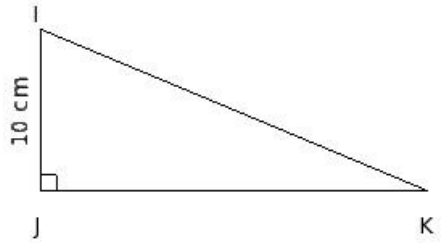
(i) $\frac{1}{3}$ (ii) $\frac{3}{13}$ (iii) $\frac{5}{13}$ (iv) $\frac{5}{11}$ (v) $\frac{7}{13}$

24. In the given figure, if $JL - KL = 2$ cm, and $JK = 8$ cm, find $\tan J$



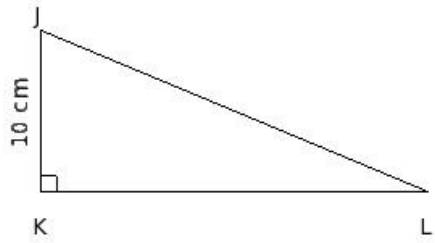
(i) $\frac{15}{8}$ (ii) $\frac{5}{2}$ (iii) $\frac{17}{8}$ (iv) $\frac{3}{2}$ (v) $\frac{13}{8}$

25. In the given figure, if $IK + JK = 50$ cm, and $IJ = 10$ cm, find $\sin I$



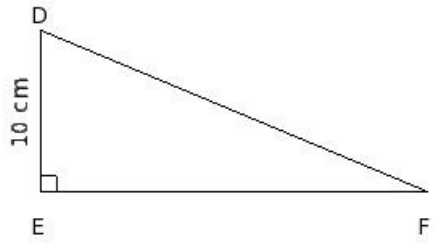
(i) $\frac{14}{13}$ (ii) $\frac{10}{13}$ (iii) $\frac{12}{11}$ (iv) $\frac{12}{13}$ (v) $\frac{4}{5}$

26. In the given figure, if $JL + KL = 50$ cm, and $JK = 10$ cm, find $\cos J$



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

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



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

Assignment Key

1) (iii)	2) (iii)	3) (v)	4) (iv)	5) (iv)	6) (v)
7) (v)	8) (v)	9) (iv)	10) (v)	11) (ii)	12) (iv)
13) (ii)	14) (iii)	15) (ii)	16) (ii)	17) (i)	18) (iv)
19) (ii)	20) (i)	21) (iii)	22) (iii)	23) (iii)	24) (i)
25) (iv)	26) (i)	27) (i)			