EduSahara™ Assignment

Name : Trigonometry Diagram Problems

Chapter : Trigonometry

Grade : SSC Grade X

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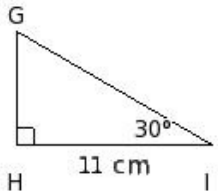
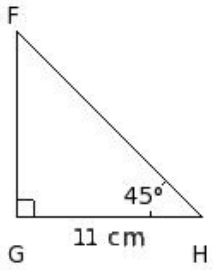
1. In the given figure, △GHI is right angled at H. If HI = 11 cm and ∠I = 30°, find GH and GI



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

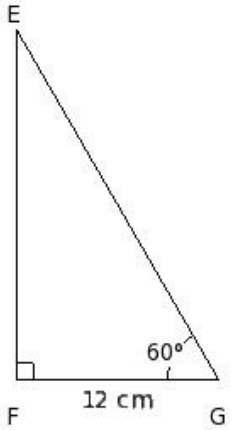
(v) $\frac{11}{3}$ cm & 25 cm

2. In the given figure, △FGH is right angled at G. If GH = 11 cm and ∠H = 45°, find FG and FH



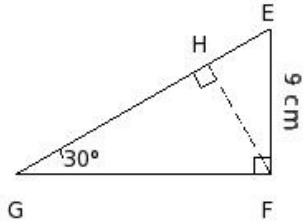
(i) 12 cm & 25 cm (ii) 12 cm & $11\sqrt{2}$ cm (iii) 12 cm & 22 cm (iv) 10 cm & 25 cm (v) 11 cm & $11\sqrt{2}$ cm

3. In the given figure, △EFG is right angled at F. If FG = 12 cm and ∠G = 60°, find EF and EG



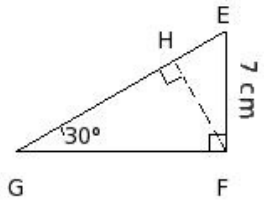
(i) $12\sqrt[4]{3}$ cm & 26 cm (ii) $12\sqrt[4]{3}$ cm & 24 cm (iii) 12 cm & 26 cm (iv) $12\sqrt[4]{3}$ cm & 23 cm (v) $12\sqrt{3}$ cm & 24 cm

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



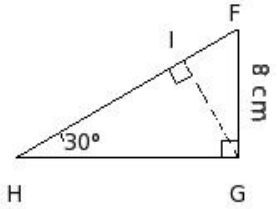
(i) 16 cm (ii) 17 cm (iii) 18 cm (iv) 19 cm (v) 21 cm

5. In the given figure, $\triangle EGF$ is right angled at F. If EF = 7 cm and $\angle G = 30°$, find FG



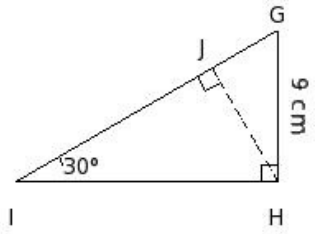
(i) 7 cm (ii) 21 cm (iii) $7\sqrt{3}$ cm (iv) $\frac{21}{2}\sqrt{2}$ cm (v) $7\sqrt{18}$ cm

6. In the given figure, $\triangle FHG$ is right angled at G. If FG = 8 cm and $\angle H = 30°$, find FI



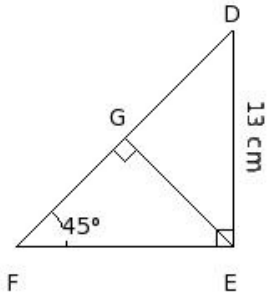
(i) 6 cm (ii) 3 cm (iii) 2 cm (iv) 5 cm (v) 4 cm

7. In the given figure, $\triangle GIH$ is right angled at H. If GH = 9 cm and $\angle I = 30°$, find IJ



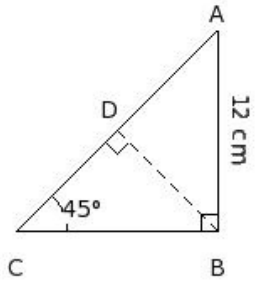
(i) $\frac{27}{2}$ cm (ii) $\frac{27}{4}$ cm (iii) 27 cm (iv) $\frac{25}{2}$ cm (v) $\frac{29}{2}$ cm

8. In the given figure, $\triangle DFE$ is right angled at E. If DE = 13 cm and $\angle F = 45°$, find DF



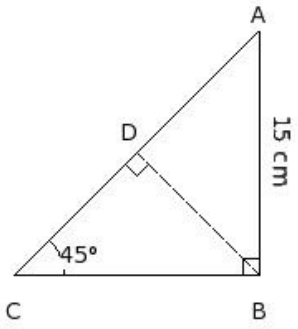
(i) $13\sqrt{2}$ cm (ii) 26 cm (iii) 13 cm (iv) $26\sqrt{3}$ cm (v) $\frac{13}{2}\sqrt{12}$ cm

9. In the given figure, $\triangle ACB$ is right angled at B. If AB = 12 cm and $\angle C = 45°$, find BC



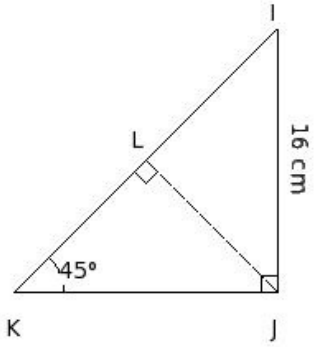
(i) 9 cm (ii) 12 cm (iii) 13 cm (iv) 11 cm (v) 15 cm

10. In the given figure, △ACB is right angled at B. If AB = 15 cm and ∠C = 45°, find AD



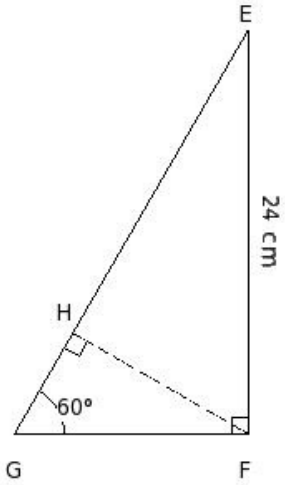
(i) $\frac{15}{4}\sqrt{12}$ cm (ii) $\frac{15}{2}$ cm (iii) $15\sqrt{3}$ cm (iv) $\frac{15}{2}\sqrt{2}$ cm (v) 15 cm

11. In the given figure, △IKJ is right angled at J. If IJ = 16 cm and ∠K = 45°, find KL



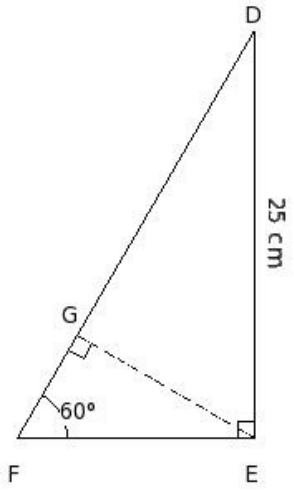
(i) 8 cm (ii) $4\sqrt{12}$ cm (iii) 16 cm (iv) $8\sqrt{2}$ cm (v) $16\sqrt{3}$ cm

12. In the given figure, △EGF is right angled at F. If EF = 24 cm and ∠G = 60°, find EG



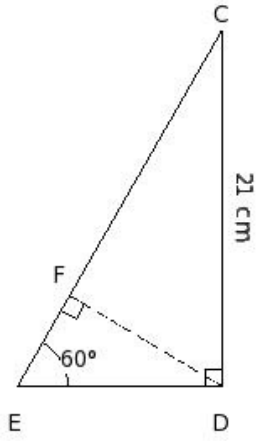
(i) $16\sqrt{3}$ cm (ii) 48 cm (iii) $16\sqrt{18}$ cm (iv) $24\sqrt{2}$ cm (v) 16 cm

13. In the given figure, △DFE is right angled at E. If DE = 25 cm and ∠F = 60°, find EF



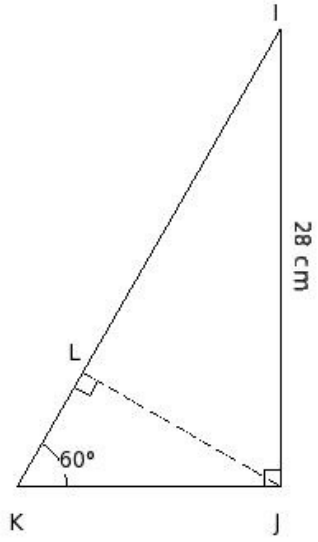
(i) $\frac{25}{3}\sqrt{3}$ cm (ii) $\frac{25}{2}\sqrt{2}$ cm (iii) 25 cm (iv) $\frac{25}{3}$ cm (v) $\frac{25}{3}\sqrt{18}$ cm

14. In the given figure, △CED is right angled at D. If CD = 21 cm and ∠E = 60°, find CF



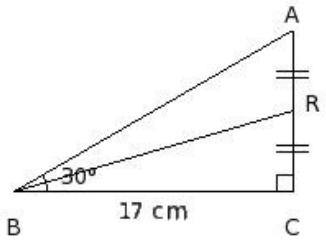
(i) $\frac{63}{4}\sqrt{2}$ cm (ii) $\frac{21}{2}$ cm (iii) $\frac{21}{2}\sqrt{3}$ cm (iv) $\frac{63}{2}$ cm (v) $\frac{21}{2}\sqrt{18}$ cm

15. In the given figure, △IKJ is right angled at J. If IJ = 28 cm and ∠K = 60°, find KL



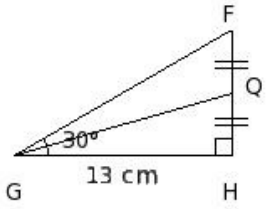
(i) 14 cm (ii) $\frac{14}{3}\sqrt{3}$ cm (iii) $\frac{14}{3}\sqrt{18}$ cm (iv) $\frac{14}{3}$ cm (v) $7\sqrt{2}$ cm

16. In the given figure, △ABC is a right angle triangle with ∠C = 90° and BC = 17 cm. R is the mid-point of AC. Find RC



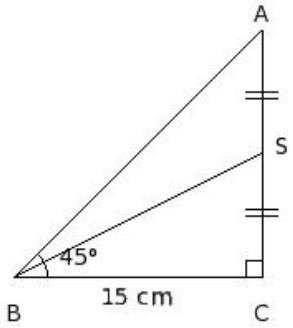
(i) $\frac{17}{2}$ cm (ii) $\frac{17}{4}\sqrt{2}$ cm (iii) $\frac{17}{6}\sqrt{18}$ cm (iv) $\frac{17}{6}$ cm (v) $\frac{17}{6}\sqrt{3}$ cm

17. In the given figure, △FGH is a right angle triangle with ∠H = 90° and GH = 13 cm. Q is the mid-point of FH. Find the length of the altitude from H to FG.



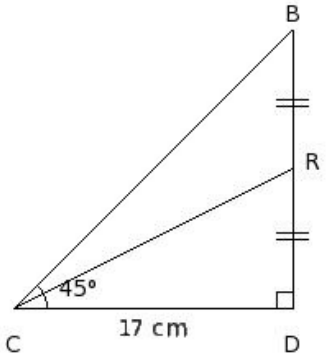
(i) 7 cm (ii) $\frac{13}{2}$ cm (iii) $\frac{15}{2}$ cm (iv) $\frac{11}{2}$ cm (v) $\frac{25}{4}$ cm

18. In the given figure, △ABC is a right angle triangle with ∠C = 90° and BC = 15 cm. S is the mid-point of AC. Find SC



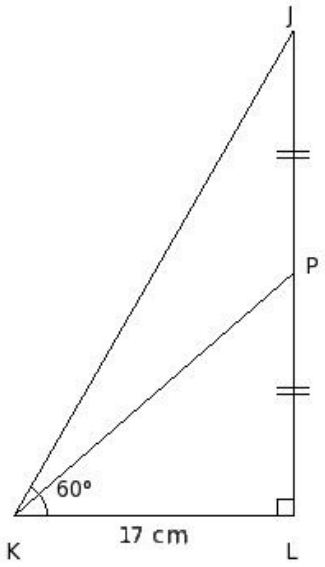
(i) 8 cm (ii) $\frac{13}{2}$ cm (iii) $\frac{29}{4}$ cm (iv) $\frac{15}{2}$ cm (v) $\frac{17}{2}$ cm

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



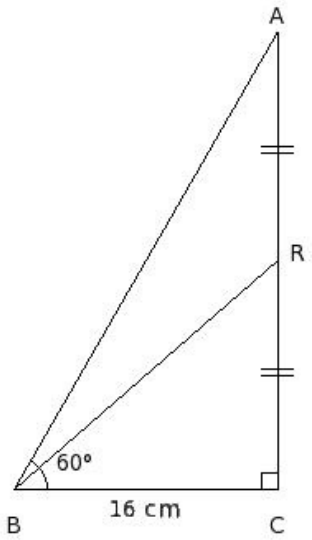
(i) $\frac{17}{2}\sqrt{2}$ cm (ii) 17 cm (iii) $\frac{17}{2}$ cm (iv) $17\sqrt{3}$ cm (v) $\frac{17}{4}\sqrt{12}$ cm

20. In the given figure, $\triangle JKL$ is a right angle triangle with $\angle L = 90°$ and KL = 17 cm. P is the mid-point of JL. Find PL



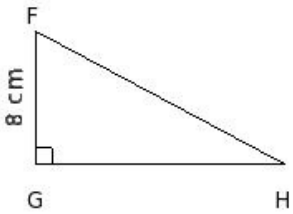
(i) $\frac{17}{2}\sqrt{3}$ cm (ii) $\frac{17}{2}\sqrt{18}$ cm (iii) $\frac{17}{2}$ cm (iv) $\frac{51}{4}\sqrt{2}$ cm (v) $\frac{51}{2}$ cm

21. In the given figure, $\triangle ABC$ is a right angle triangle with $\angle C = 90°$ and BC = 16 cm. R is the mid-point of AC. Find the length of the altitude from C to AB.



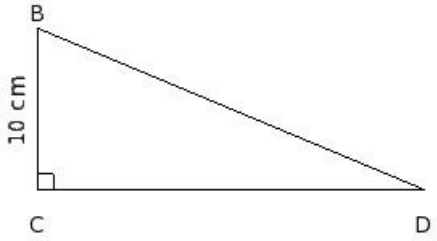
(i) $8\sqrt{3}$ cm (ii) $8\sqrt{18}$ cm (iii) 8 cm (iv) 24 cm (v) $12\sqrt{2}$ cm

22. In the given figure, if $FH - GH = 2$ cm, and FG = 8 cm, find $\sin F$



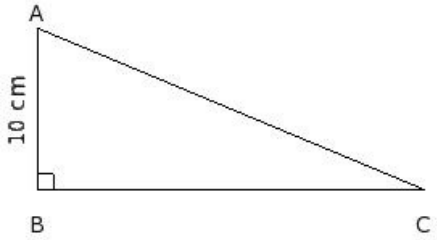
(i) 1 (ii) $\frac{13}{17}$ (iii) $\frac{15}{17}$ (iv) $\frac{15}{19}$

23. In the given figure, if $BD - CD = 2$ cm, and $BC = 10$ cm, find $\cos B$



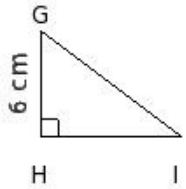
(i) $\frac{3}{13}$ (ii) $\frac{5}{13}$ (iii) $\frac{7}{13}$ (iv) $\frac{5}{11}$ (v) $\frac{1}{3}$

24. In the given figure, if $AC - BC = 2$ cm, and $AB = 10$ cm, find $\tan A$



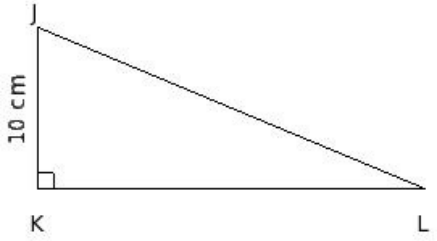
(i) $\frac{12}{5}$ (ii) 2 (iii) $\frac{12}{7}$ (iv) $\frac{14}{5}$ (v) 4

25. In the given figure, if $GI + HI = 18$ cm, and $GH = 6$ cm, find $\sin G$



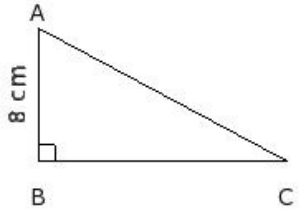
(i) $\frac{6}{5}$ (ii) $\frac{2}{5}$ (iii) $\frac{4}{3}$ (iv) $\frac{4}{5}$ (v) $\frac{4}{7}$

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



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

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



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

Assignment Key

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

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