EduSahara™ Assignment

Name : Trigonometry Diagram Problems

Chapter : Trigonometrical Identities

Grade : ICSE Grade X

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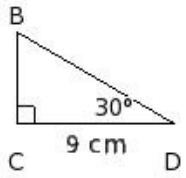
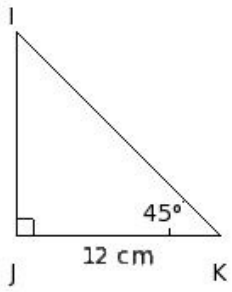
1. In the given figure, △BCD is right angled at C. If CD = 9 cm and ∠D = 30°, find BC and BD



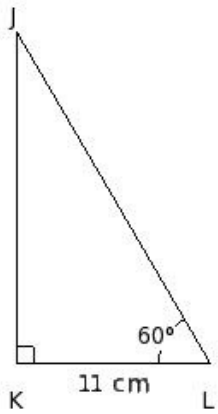
(i) $3\sqrt{3}$ cm & $6\sqrt{3}$ cm (ii) $3\sqrt[4]{3}$ cm & 20 cm (iii) $3\sqrt[4]{3}$ cm & $6\sqrt{3}$ cm (iv) 3 cm & 20 cm (v) $3\sqrt[4]{3}$ cm & 18 cm

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



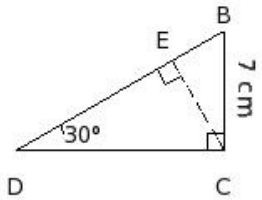
(i) 10 cm & 27 cm (ii) 12 cm & $12\sqrt{2}$ cm (iii) 13 cm & 24 cm (iv) 13 cm & 27 cm (v) 13 cm & $12\sqrt{2}$ cm

3. In the given figure, △JKL is right angled at K. If KL = 11 cm and ∠L = 60°, find JK and JL



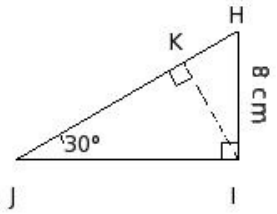
(i) $11\sqrt[4]{\frac{1}{3}}$ cm & 24 cm (ii) $11\sqrt[4]{3}$ cm & 22 cm (iii) $11\sqrt[4]{3}$ cm & 21 cm (iv) $11\sqrt{3}$ cm & 22 cm (v) $11\sqrt[4]{3}$ cm & 24 cm

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



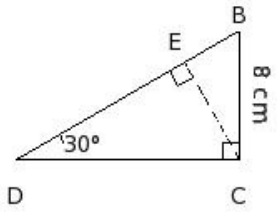
(i) 11 cm (ii) 15 cm (iii) 13 cm (iv) 16 cm (v) 14 cm

5. In the given figure, △HJI is right angled at I. If HI = 8 cm and ∠J = 30°, find IJ



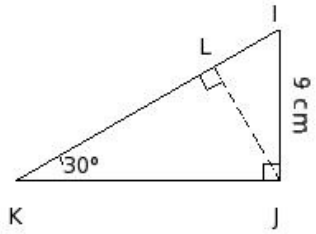
(i) 24 cm (ii) $8\sqrt{3}$ cm (iii) $12\sqrt{2}$ cm (iv) $8\sqrt{18}$ cm (v) 8 cm

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



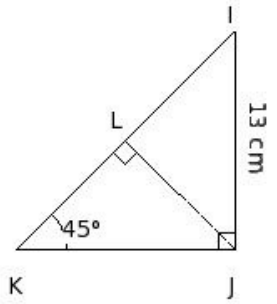
(i) 4 cm (ii) 5 cm (iii) 1 cm (iv) 3 cm (v) 7 cm

7. In the given figure, △IKJ is right angled at J. If IJ = 9 cm and ∠K = 30°, find KL



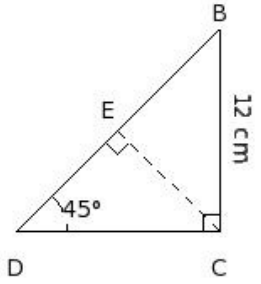
(i) $\frac{25}{2}$ cm (ii) $\frac{29}{2}$ cm (iii) 27 cm (iv) $\frac{27}{2}$ cm (v) $\frac{27}{4}$ cm

8. In the given figure, △IKJ is right angled at J. If IJ = 13 cm and ∠K = 45°, find IK



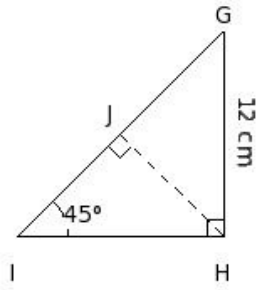
(i) $26\sqrt{3}$ cm (ii) 26 cm (iii) $13\sqrt{2}$ cm (iv) $\frac{13}{2}\sqrt{12}$ cm (v) 13 cm

9. In the given figure, △BDC is right angled at C. If BC = 12 cm and ∠D = 45°, find CD



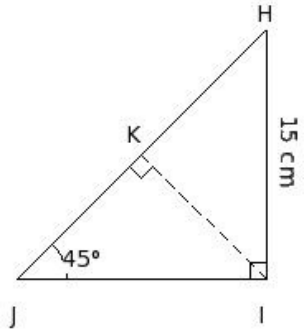
(i) 15 cm (ii) 13 cm (iii) 10 cm (iv) 12 cm (v) 11 cm

10. In the given figure, △GIH is right angled at H. If GH = 12 cm and ∠I = 45°, find GJ



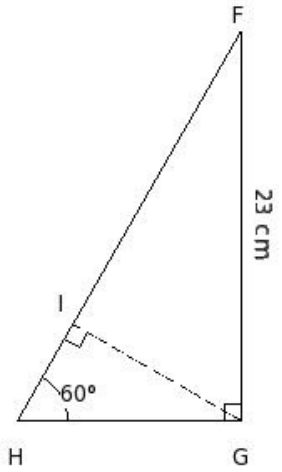
(i) 12 cm (ii) 6 cm (iii) $3\sqrt{12}$ cm (iv) $12\sqrt{3}$ cm (v) $6\sqrt{2}$ cm

11. In the given figure, △HJI is right angled at I. If HI = 15 cm and ∠J = 45°, find JK



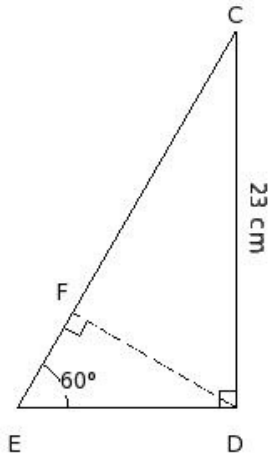
(i) $\frac{15}{2}$ cm (ii) $\frac{15}{4}\sqrt{12}$ cm (iii) $15\sqrt{3}$ cm (iv) 15 cm (v) $\frac{15}{2}\sqrt{2}$ cm

12. In the given figure, △FHG is right angled at G. If FG = 23 cm and ∠H = 60°, find FH



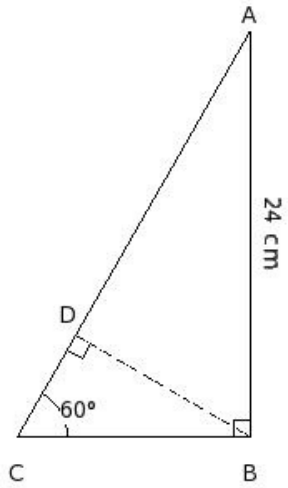
(i) $\frac{46}{3}$ cm (ii) $\frac{46}{3}\sqrt{18}$ cm (iii) $23\sqrt{2}$ cm (iv) 46 cm (v) $\frac{46}{3}\sqrt{3}$ cm

13. In the given figure, △CED is right angled at D. If CD = 23 cm and ∠E = 60°, find DE



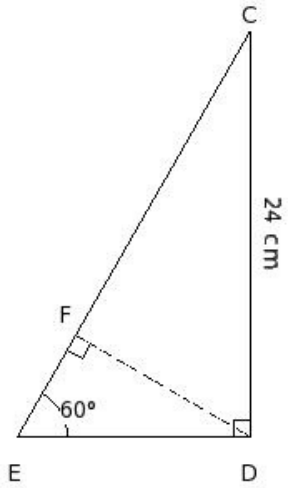
(i) 23 cm (ii) $\frac{23}{3}\sqrt{18}$ cm (iii) $\frac{23}{3}$ cm (iv) $\frac{23}{3}\sqrt{3}$ cm (v) $\frac{23}{2}\sqrt{2}$ cm

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



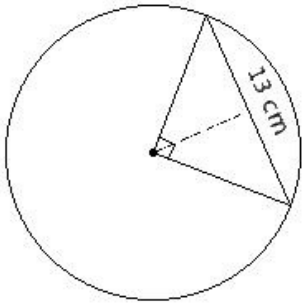
(i) 36 cm (ii) $18\sqrt{2}$ cm (iii) 12 cm (iv) $12\sqrt{3}$ cm (v) $12\sqrt{18}$ cm

15. In the given figure, △CED is right angled at D. If CD = 24 cm and ∠E = 60°, find EF



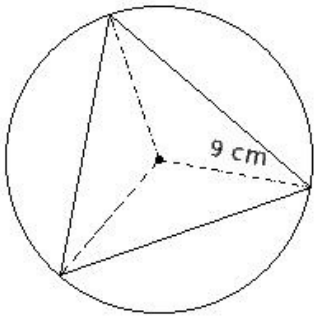
(i) $4\sqrt{3}$ cm (ii) 4 cm (iii) 12 cm (iv) $4\sqrt{18}$ cm (v) $6\sqrt{2}$ cm

16. A chord of 13 cm subtends an angle of 90° at the centre. Calculate its shortest distance from the centre



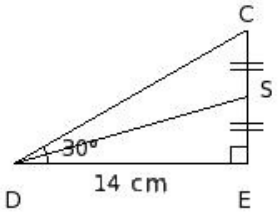
(i) 8.5 cm (ii) 6.5 cm (iii) 5.5 cm (iv) 4.5 cm (v) 7.5 cm

17. An equilateral triangle is inscribed in a circle of radius 9 cm. Find the length of its sides.



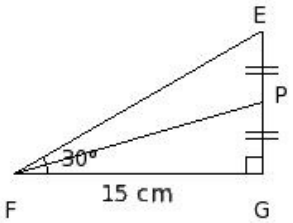
(i) $9\sqrt{18}$ cm (ii) $9\sqrt{3}$ cm (iii) 9 cm (iv) $\frac{27}{2}\sqrt{2}$ cm (v) 27 cm

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



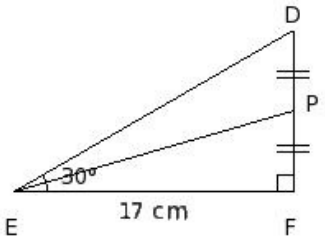
(i) $\frac{7}{3}\sqrt{3}$ cm (ii) $\frac{7}{3}\sqrt{18}$ cm (iii) 7 cm (iv) $\frac{7}{2}\sqrt{2}$ cm (v) $\frac{7}{3}$ cm

19. In the given figure, △EFG is a right angle triangle with ∠G = 90° and FG = 15 cm. P is the mid-point of EG. Find ∠PFG using tables.



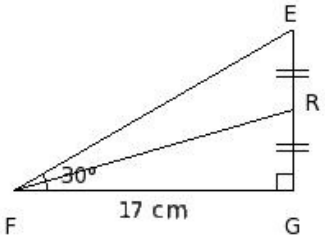
(i) 14° 6' (ii) 18° 6' (iii) 13° 6' (iv) 19° 6' (v) 16° 6'

20. In the given figure, △DEF is a right angle triangle with ∠F = 90° and EF = 17 cm. P is the mid-point of DF. Find the length of the altitude from F to DE.



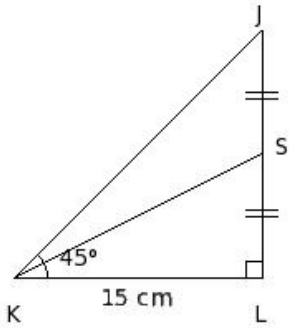
(i) $\frac{19}{2}$ cm (ii) $\frac{15}{2}$ cm (iii) 9 cm (iv) $\frac{33}{4}$ cm (v) $\frac{17}{2}$ cm

21. In the given figure, △EFG is a right angle triangle with ∠G = 90° and FG = 17 cm. R is the mid-point of EG. Find ∠RFE using tables.



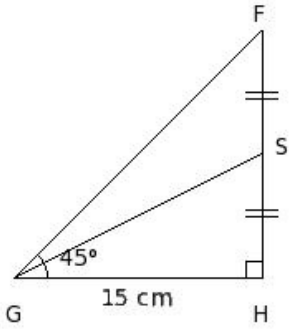
(i) 10° 54' (ii) 13° 54' (iii) 11° 54' (iv) 16° 54' (v) 15° 54'

22. In the given figure, △JKL is a right angle triangle with ∠L = 90° and KL = 15 cm. S is the mid-point of JL. Find SL



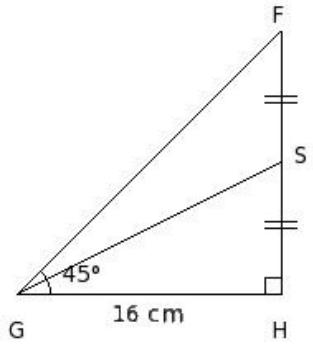
(i) $\frac{15}{2}$ cm (ii) $\frac{29}{4}$ cm (iii) $\frac{17}{2}$ cm (iv) 8 cm (v) $\frac{13}{2}$ cm

23. In the given figure, △FGH is a right angle triangle with ∠H = 90° and GH = 15 cm. S is the mid-point of FH. Find ∠SGH using tables.



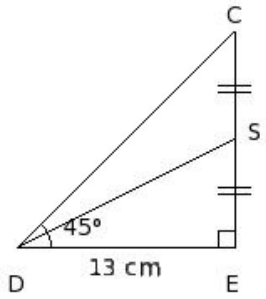
(i) 23° 34' (ii) 26° 34' (iii) 29° 34' (iv) 28° 34' (v) 24° 34'

24. In the given figure, △FGH is a right angle triangle with ∠H = 90° and GH = 16 cm. S is the mid-point of FH. Find the length of the altitude from H to FG.



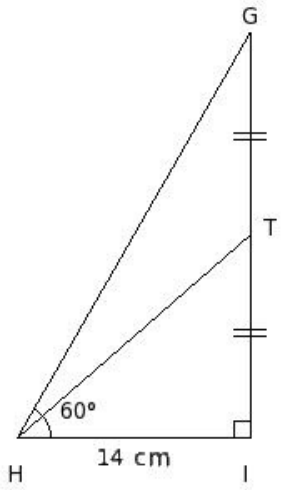
(i) 16 cm (ii) $16\sqrt{3}$ cm (iii) $4\sqrt{12}$ cm (iv) $8\sqrt{2}$ cm (v) 8 cm

25. In the given figure, △CDE is a right angle triangle with ∠E = 90° and DE = 13 cm. S is the mid-point of CE. Find ∠SDC using tables.



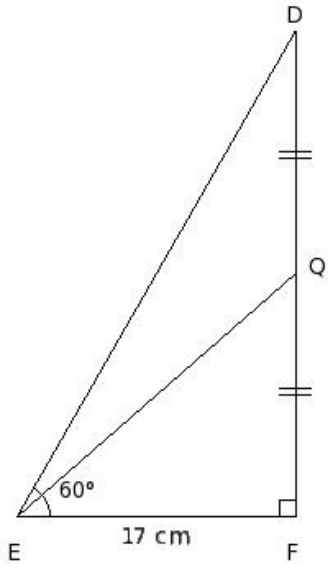
(i) 16° 26' (ii) 18° 26' (iii) 15° 26' (iv) 21° 26' (v) 20° 26'

26. In the given figure, △GHI is a right angle triangle with ∠I = 90° and HI = 14 cm. T is the mid-point of GI. Find TI



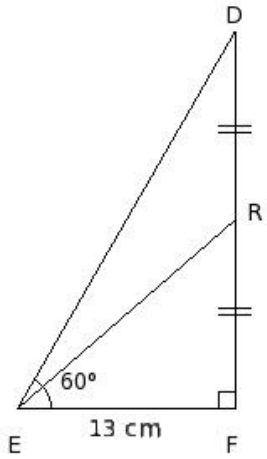
(i) 21 cm (ii) $7\sqrt{18}$ cm (iii) 7 cm (iv) $7\sqrt{3}$ cm (v) $\frac{21}{2}\sqrt{2}$ cm

27. In the given figure, △DEF is a right angle triangle with ∠F = 90° and EF = 17 cm. Q is the mid-point of DF. Find ∠QEF using tables.



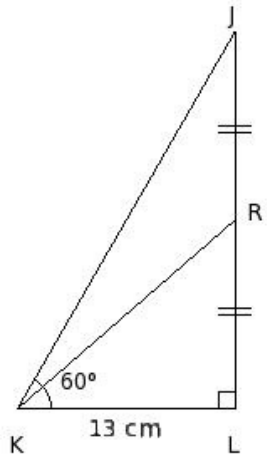
(i) 37° 53' (ii) 38° 53' (iii) 42° 53' (iv) 40° 53' (v) 43° 53'

28. 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 the length of the altitude from F to DE.



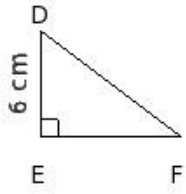
(i) $\frac{13}{2}\sqrt{18}$ cm (ii) $\frac{13}{2}\sqrt{3}$ cm (iii) $\frac{39}{4}\sqrt{2}$ cm (iv) $\frac{13}{2}$ cm (v) $\frac{39}{2}$ cm

29. In the given figure, △JKL is a right angle triangle with ∠L = 90° and KL = 13 cm. R is the mid-point of JL. Find ∠RKJ using tables.



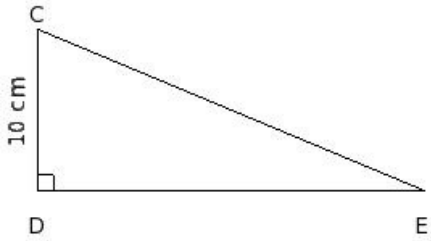
(i) 19° 7' (ii) 16° 7' (iii) 21° 7' (iv) 17° 7' (v) 22° 7'

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



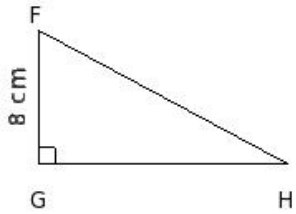
(i) $\frac{4}{5}$ (ii) $\frac{4}{7}$ (iii) $\frac{6}{5}$ (iv) $\frac{4}{3}$ (v) $\frac{2}{5}$

31. In the given figure, if $CE - DE = 2$ cm, and $CD = 10$ cm, find $\cos C$



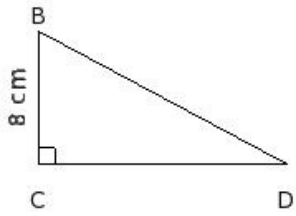
(i) $\frac{1}{3}$ (ii) $\frac{5}{13}$ (iii) $\frac{7}{13}$ (iv) $\frac{3}{13}$ (v) $\frac{5}{11}$

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



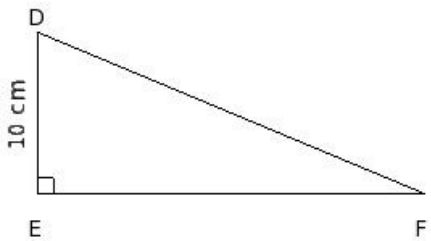
(i) $\frac{3}{2}$ (ii) $\frac{5}{2}$ (iii) $\frac{17}{8}$ (iv) $\frac{15}{8}$ (v) $\frac{13}{8}$

33. In the given figure, if $BD + CD = 32$ cm, and $BC = 8$ cm, find $\sin B$



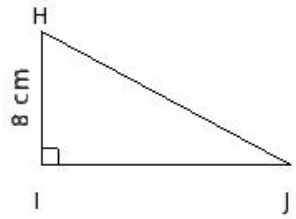
(i) $\frac{13}{17}$ (ii) $\frac{15}{17}$ (iii) 1 (iv) $\frac{15}{19}$

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



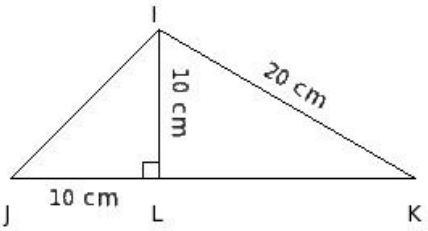
(i) $\frac{5}{13}$ (ii) $\frac{5}{11}$ (iii) $\frac{3}{13}$ (iv) $\frac{7}{13}$ (v) $\frac{1}{3}$

35. In the given figure, if $HJ + IJ = 32$ cm, and $HI = 8$ cm, find $\tan H$



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

36. The altitude IL of $\triangle IJK$ in which $\angle I$ is obtuse is 10 cm. If $JL = 10$ cm and $KL = 10\sqrt{3}$ cm, find $\angle JIK$



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

Assignment Key

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