EduSahara™ Assignment

Name : Triangle Angle Properties

Chapter : Lines and Angles

Grade : SSC Grade IX

License : Non Commercial Use

1. In △CDE, if ∠C = 70° and ∠D = 55°, find the measure of ∠E

   (i) E=55° (ii) E=53° (iii) E=57° (iv) E=56° (v) E=54°

2. In △GHI, if ∠G = 90° and ∠H = ∠I, find the measure of each of the equal angles of the triangle

   (i) 46° (ii) 45° (iii) 43° (iv) 47° (v) 44°

3. One angle of a triangle measures 25° and the other two angles are in the ratio 12 : 19. Find these angles.

   (i) B=62°,C=97° (ii) B=60°,C=95° (iii) B=58°,C=93° (iv) B=59°,C=94° (v) B=61°,C=96°

4. In a right-angled triangle, the two acute angles are in the ratio 11 : 7. Find these angles.

   (i) A=55°,C=35° (ii) A=56°,C=36° (iii) A=57°,C=37° (iv) A=53°,C=33° (v) A=54°,C=34°

5. One of the two equal angles of an isosceles triangle measures 46°. Find the measure of each angle of the triangle.

   (i) A=46°,B=44°,C=90° (ii) A=48°,B=46°,C=86° (iii) A=44°,B=46°,C=90° (iv) A=44°,B=48°,C=88°

   (v) A=46°,B=46°,C=88°

6. Find the measure of each of the two equal angles of an isosceles right-angled triangle.

   (i) 44° (ii) 43° (iii) 45° (iv) 46° (v) 47°

7. If all the three angles of a triangle are of the same measure, find the measure of each of the angles.

   (i) 62° (ii) 61° (iii) 59° (iv) 60° (v) 58°

8. In a right-angled triangle if one of the acute angles is 37°, find the measure of the other acute angle.

   (i) 54° (ii) 53° (iii) 51° (iv) 55° (v) 52°

9. The vertical angle of an isosceles triangle is twice the sum of its base angles. Find each angle of the triangle.

   (i) A=118°,B=30°,C=32° (ii) A=120°,B=28°,C=32° (iii) A=120°,B=30°,C=30°

   (iv) A=122°,B=30°,C=28° (v) A=118°,B=32°,C=30°

10. In an isosceles triangle, each base angle is four times its vertical angle. Find each angle of the triangle.

    (i) A=18°,B=82°,C=80° (ii) A=20°,B=80°,C=80° (iii) A=22°,B=80°,C=78° (iv) A=18°,B=80°,C=82°

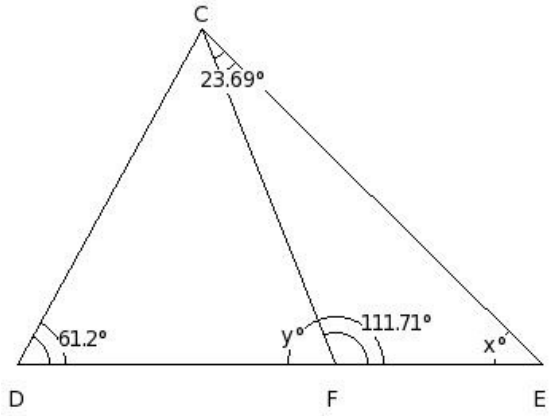
    (v) A=20°,B=78°,C=82°

11. The ratio between the base angle and the vertical angle of an isosceles triangle is 1 : 1. Find each angle of the triangle

    (i) A=60°,B=60°,C=60° (ii) A=58°,B=62°,C=60° (iii) A=62°,B=60°,C=58° (iv) A=58°,B=60°,C=62°

    (v) A=60°,B=58°,C=62°

12. In the given figure, find the values of x and y.



(i) x=46.6°,y=70.29° (ii) x=44.6°,y=68.29° (iii) x=45.6°,y=69.29° (iv) x=42.6°,y=66.29°

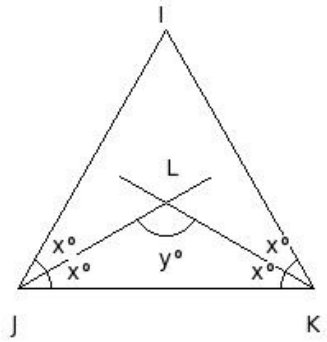
(v) x=43.6°,y=67.29°

13. Each of the two equal angles of an isosceles triangle is half the third angle. Find the angles of the triangle

(i) X=45°,Y=90°,Z=45° (ii) X=43°,Y=90°,Z=47° (iii) X=43°,Y=92°,Z=45° (iv) X=45°,Y=88°,Z=47°

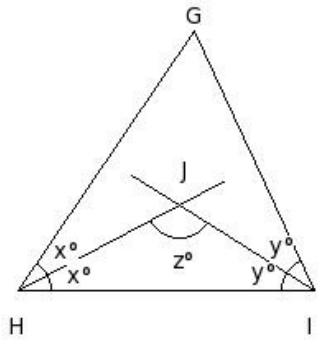
(v) X=47°,Y=90°,Z=43°

14. In the given figure, △IJK is a triangle in which ∠I = ∠J = ∠K.
This bisectors of ∠J and ∠K intersect at L. Find ∠L =



(i) 120° (ii) 122° (iii) 118° (iv) 119° (v) 121°

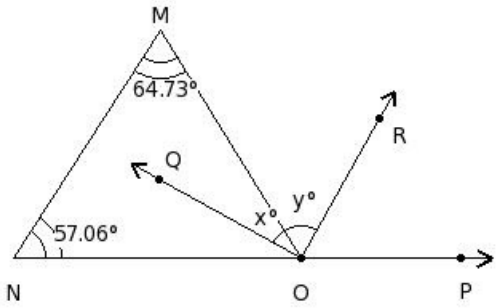
15. In the given figure, △GHI is a triangle in which ∠H = 55.89° and ∠I = 65.2°.
If 'z' is the angle between the bisector of ∠H and ∠I, then find z.



(i) 120.46° (ii) 121.46° (iii) 118.46° (iv) 117.46° (v) 119.46°

In the given figure, ∠M = 64.73° and ∠N = 57.06°.

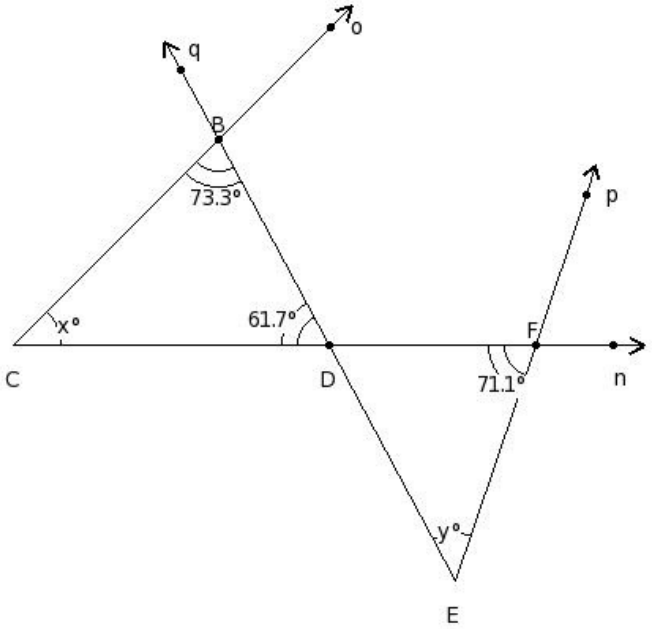
16. Side NO is produced to P, so that ∠NOM and ∠MOP form a linear pair.
If $\overrightarrow{OQ}$ and $\overrightarrow{OR}$ are the bisectors of ∠NOM and ∠MOP, find x and y.



(i) x=29.11°,y=60.89° (ii) x=30.11°,y=61.89° (iii) x=31.11°,y=62.89° (iv) x=27.11°,y=58.89°

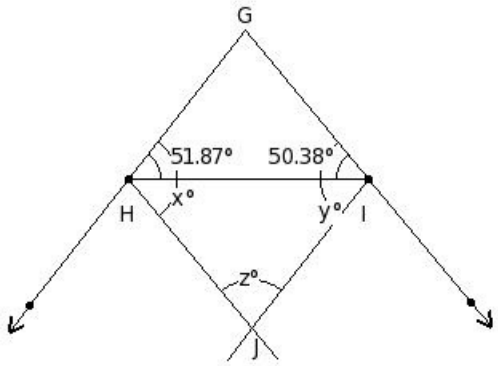
(v) x=28.11°,y=59.89°

17. In the given figure, find the values of x and y



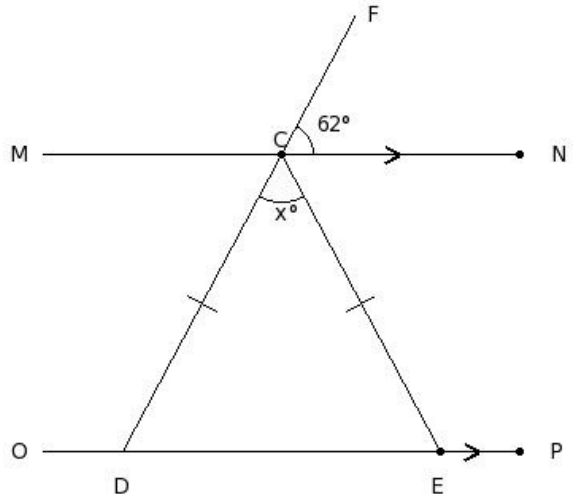
(i) x=44°,y=46.2° (ii) x=46°,y=48.2° (iii) x=45°,y=47.2° (iv) x=43°,y=45.2° (v) x=47°,y=49.2°

18. In the given figure, △GHI in which ∠H = 51.87° and ∠I = 50.38°. GJ and HI bisects each other. Find the value of z



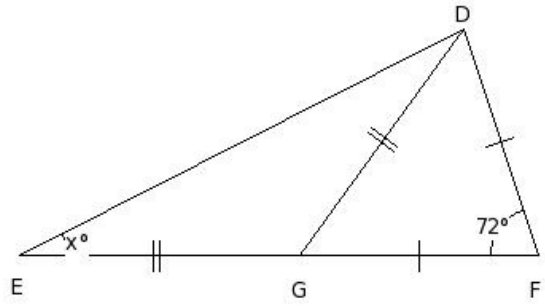
(i) z=77.75° (ii) z=75.75° (iii) z=78.75° (iv) z=76.75° (v) z=79.75°

19. In the given figure, MN ∥ OP, ∠FCN = 62° and CD = EC. Find the measure of x.



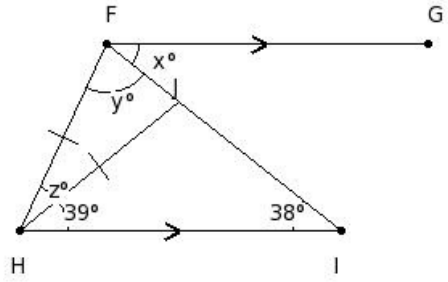
(i) x=56° (ii) x=55° (iii) x=54° (iv) x=57° (v) x=58°

20. In the given figure, find the value of x.



(i) x=25° (ii) x=28° (iii) x=27° (iv) x=29° (v) x=26°

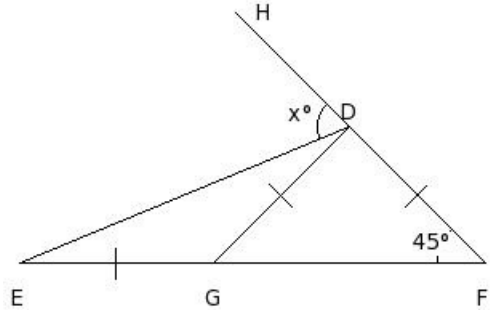
21. In the given figure, FG ∥ HI and FH = HJ. Find the values of x,y and z.



(i) x=40°,y=77°,z=24° (ii) x=38°,y=77°,z=26° (iii) x=36°,y=79°,z=26° (iv) x=38°,y=75°,z=28°

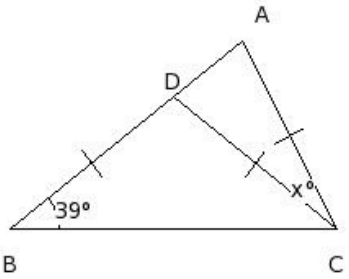
(v) x=36°,y=77°,z=28°

22. In the given figure, if FD = DG = EG. Find the value of x.



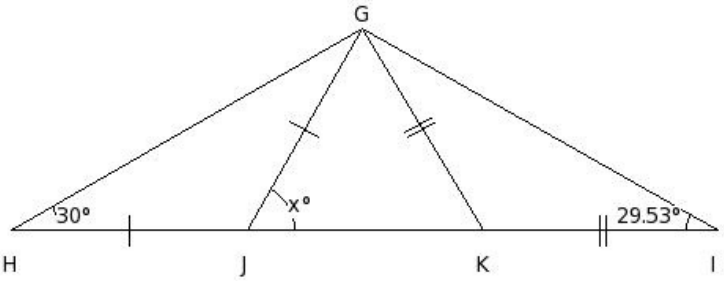
(i) x=67.5° (ii) x=69.5° (iii) x=65.5° (iv) x=66.5° (v) x=68.5°

23. In the given figure, if CA = CD = DB, find the value of x



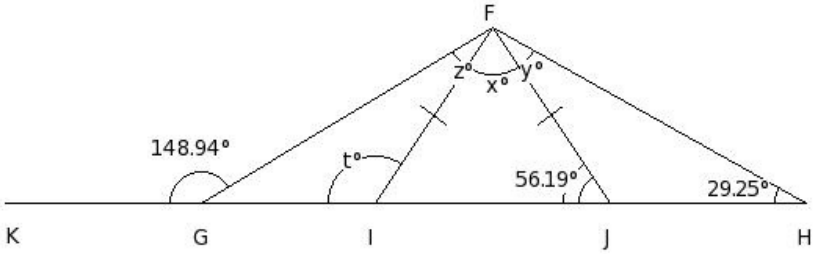
(i) x=23° (ii) x=22° (iii) x=24° (iv) x=25° (v) x=26°

24. In the given figure, if JG = HJ and GK = KI , find the value of x.



(i) x=59° (ii) x=62° (iii) x=58° (iv) x=61° (v) x=60°

25. In the given figure, if FI = JF, find the values of x , y , z and t

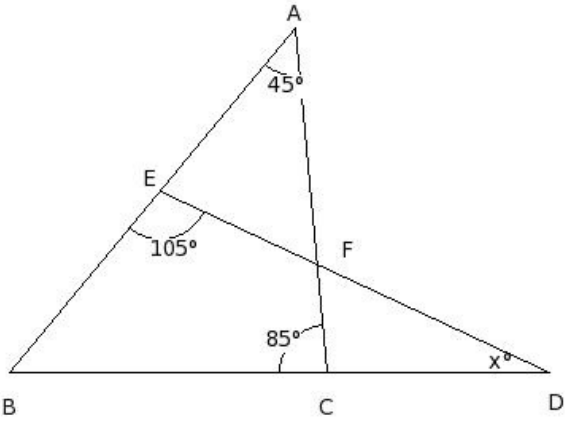


(i) x =67.62°, y =26.94°, z =25.13° , t =123.81° (ii) x =67.62°, y =26.94°, z =24.13° , t =122.81°

(iii) x =67.62°, y =28.94°, z =27.13° , t =123.81° (iv) x =67.62°, y =24.94°, z =23.13° , t =123.81°

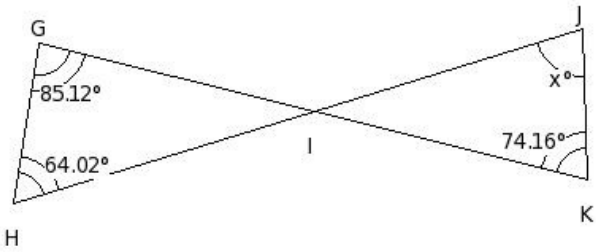
(v) x =67.62°, y =26.94°, z =26.13° , t =124.81°

26. In the given figure, calculate the value of x.



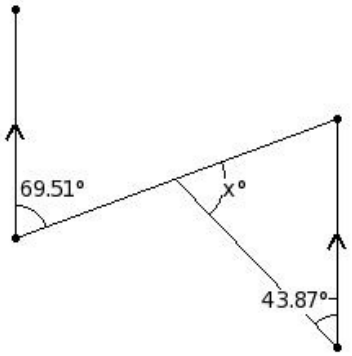
(i) x=27° (ii) x=26° (iii) x=23° (iv) x=24° (v) x=25°

27. In the given figure, calculate the value of x.



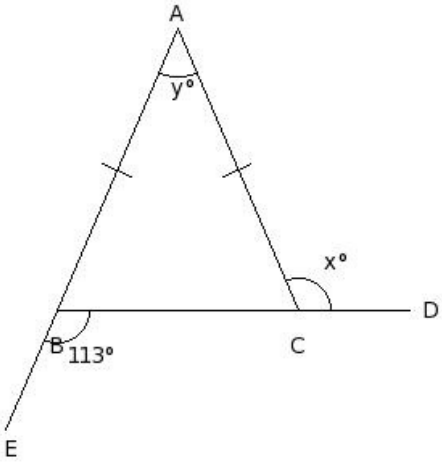
(i) x=73.98° (ii) x=76.98° (iii) x=75.98° (iv) x=72.98° (v) x=74.98°

28. In the given figure, calculate the value of x.



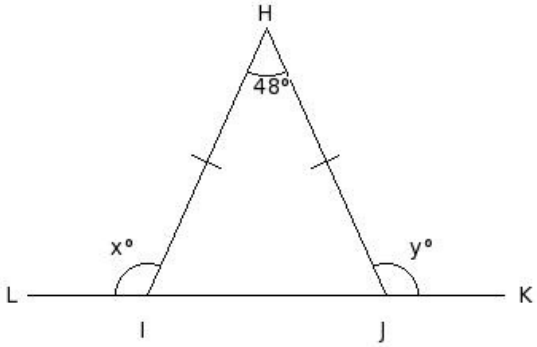
(i) x=68.62° (ii) x=64.62° (iii) x=66.62° (iv) x=67.62° (v) x=65.62°

29. Find the unknown marked angles in the following figure



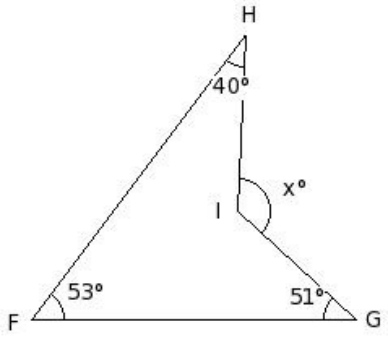
(i) x=115°,y=48° (ii) x=113°,y=46° (iii) x=114°,y=47° (iv) x=112°,y=45° (v) x=111°,y=44°

30. Find the unknown marked angles in the following figure



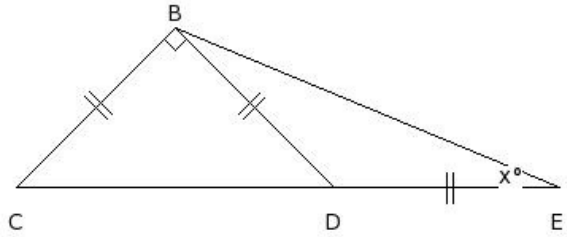
(i) x=112°,y=112° (ii) x=116°,y=116° (iii) x=114°,y=114° (iv) x=115°,y=115° (v) x=113°,y=113°

31. In the given figure, calculate the value of x.



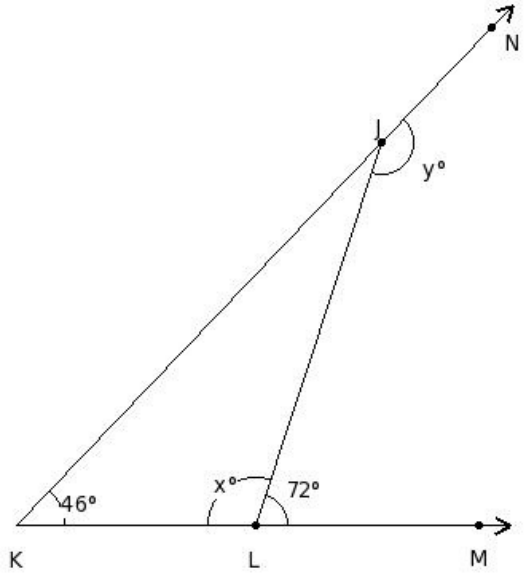
(i) x=143° (ii) x=146° (iii) x=145° (iv) x=142° (v) x=144°

32. In the given figure, calculate the value of x.



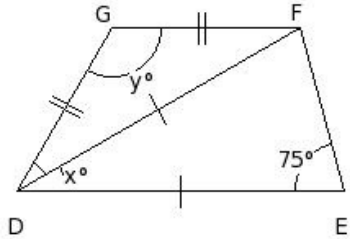
(i) x=22.5° (ii) x=23.5° (iii) x=21.5° (iv) x=20.5° (v) x=24.5°

33. Find the unknown marked angles in the following figure



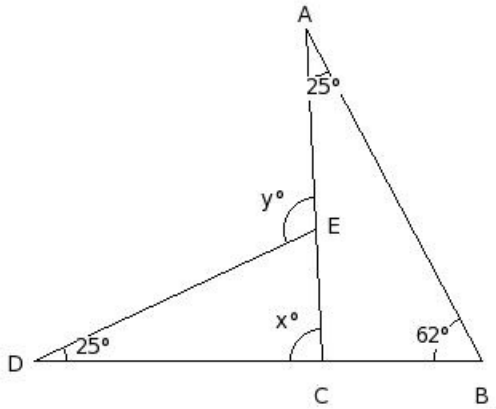
(i) x=107°,y=153° (ii) x=108°,y=154° (iii) x=109°,y=155° (iv) x=106°,y=152° (v) x=110°,y=156°

34. In the following figure DE ∥ GF, find the values of x and y.



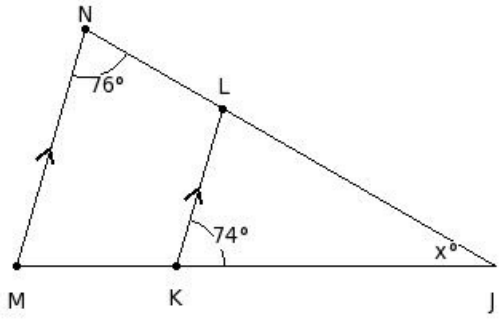
(i) x=31°,y=121° (ii) x=30°,y=120° (iii) x=32°,y=122° (iv) x=29°,y=119° (v) x=28°,y=118°

35. Find the unknown marked angles in the following figure



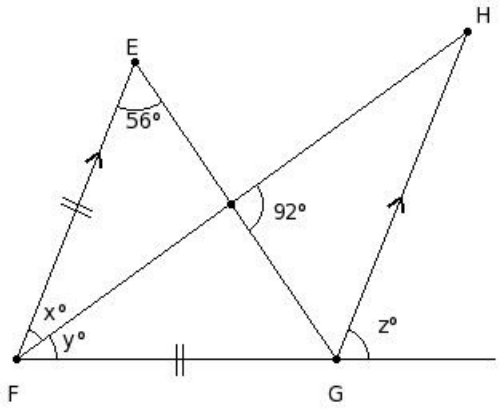
(i) x=86°,y=111° (ii) x=89°,y=114° (iii) x=88°,y=113° (iv) x=85°,y=110° (v) x=87°,y=112°

36. In the given figure, it is given that LK ∥ NM , ∠LNM = 76° and ∠LKJ = 74°. Find the value of x.



(i) x=30° (ii) x=32° (iii) x=29° (iv) x=31° (v) x=28°

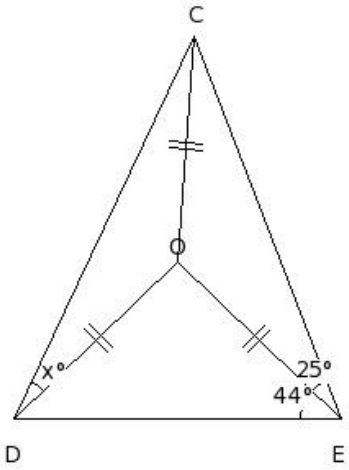
37. In the given figure, find the values of x ,y and z.



(i) x=34°,y=36°,z=66° (ii) x=32°,y=36°,z=68° (iii) x=30°,y=38°,z=68° (iv) x=30°,y=36°,z=70°

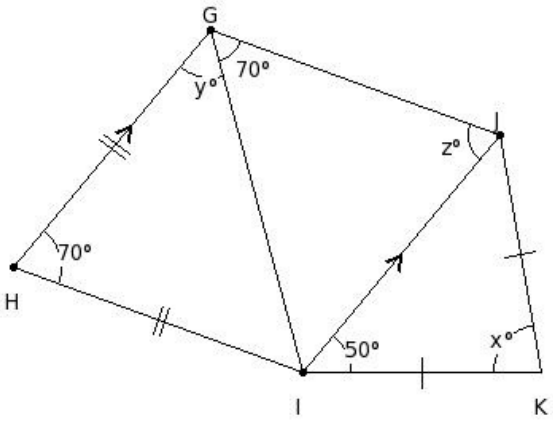
(v) x=32°,y=34°,z=70°

38. Find the value of x in the given figure.



(i) x=20° (ii) x=21° (iii) x=23° (iv) x=19° (v) x=22°

39. In the given figure, find the values of x ,y and z.



(i) x=78°,y=55°,z=72° (ii) x=80°,y=55°,z=70° (iii) x=82°,y=55°,z=68° (iv) x=80°,y=53°,z=72°

(v) x=78°,y=57°,z=70°

Assignment Key

1) (i)	2) (ii)	3) (ii)	4) (i)	5) (v)	6) (iii)
7) (iv)	8) (ii)	9) (iii)	10) (ii)	11) (i)	12) (ii)
13) (i)	14) (i)	15) (v)	16) (i)	17) (iii)	18) (i)
19) (i)	20) (iii)	21) (ii)	22) (i)	23) (iii)	24) (v)
25) (i)	26) (v)	27) (v)	28) (iii)	29) (ii)	30) (iii)
31) (v)	32) (i)	33) (ii)	34) (ii)	35) (v)	36) (i)
37) (ii)	38) (ii)	39) (ii)			

Copyright © Small Systems Computing Pvt. Ltd.