EduSahara™ Assignment

Name : Triangle Angle Properties

Chapter : Lines and Angles

Grade : CBSE Grade IX

1. Sum of the interior angles in a triangle is

   (i) 195° (ii) 185° (iii) 190° (iv) 180° (v) 210°

2. Two angles of a triangle measure 55° and 59° respectively. Find the measure of the third angle of the triangle

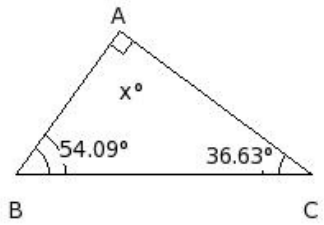
   (i) 64° (ii) 68° (iii) 65° (iv) 66° (v) 67°

3. The angles of a triangle ABC are in the ratio 3 : 2 : 4. Find the measure of each angle of the triangle

   (i) A=60°,B=38°,C=82° (ii) A=60°,B=40°,C=80° (iii) A=58°,B=40°,C=82° (iv) A=58°,B=42°,C=80°

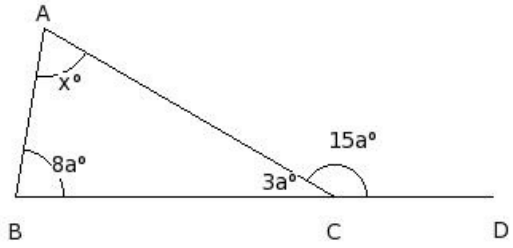
   (v) A=62°,B=40°,C=78°

4. Find the unknown angle from the following figure



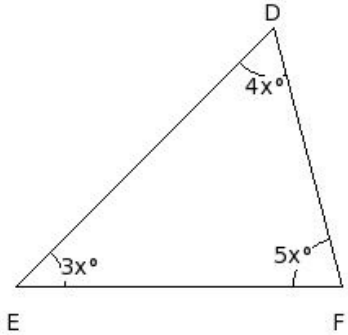
   (i) x=89.28° (ii) x=88.28° (iii) x=91.28° (iv) x=87.28° (v) x=90.28°

5. In the given figure, △ABC in which side BC has been produced to D. If ∠CAB = x° , ∠ABC = (8a)° , ∠BCA = (3a)° and ∠ACD = (15a)°, find the values of a and x.



   (i) a=12°,x=72° (ii) a=8°,x=68° (iii) a=10°,x=70° (iv) a=11°,x=71° (v) a=9°,x=69°

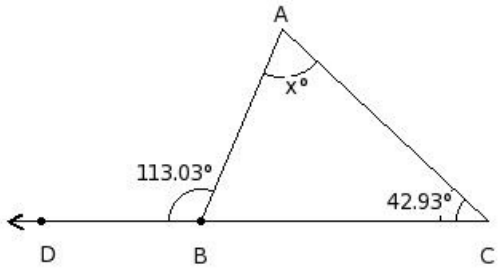
6. Find the angles of the triangle



   (i) D=60°,E=45°,F=75° (ii) D=60°,E=43°,F=77° (iii) D=58°,E=45°,F=77° (iv) D=62°,E=45°,F=73°

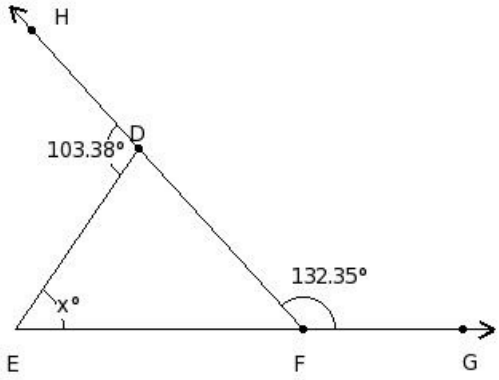
   (v) D=58°,E=47°,F=75°

7. Calculate the value of x in the following figure



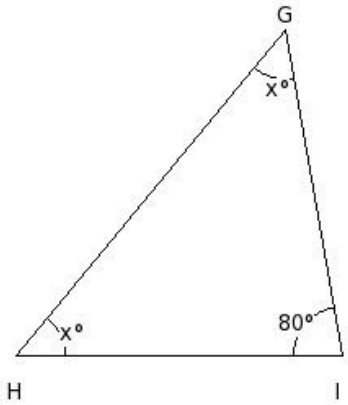
(i) x=70.1° (ii) x=71.1° (iii) x=72.1° (iv) x=68.1° (v) x=69.1°

8. Find the unknown marked angle in the following figure



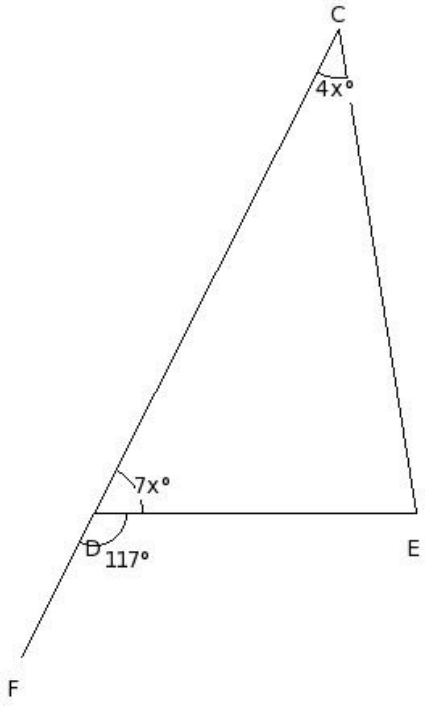
(i) x=57.73° (ii) x=56.73° (iii) x=55.73° (iv) x=53.73° (v) x=54.73°

9. Find the unknown angles in the following figure



(i) G=49°,H=49° (ii) G=51°,H=51° (iii) G=52°,H=52° (iv) G=50°,H=50° (v) G=48°,H=48°

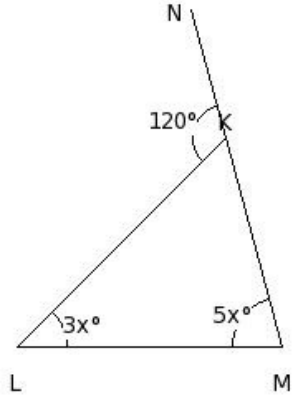
10. In the following figure, one side of a triangle has been produced. Find all the angles of the triangle



(i) C=38°,D=63°,E=79° (ii) C=34°,D=63°,E=83° (iii) C=36°,D=61°,E=83° (iv) C=36°,D=63°,E=81°

(v) C=34°,D=65°,E=81°

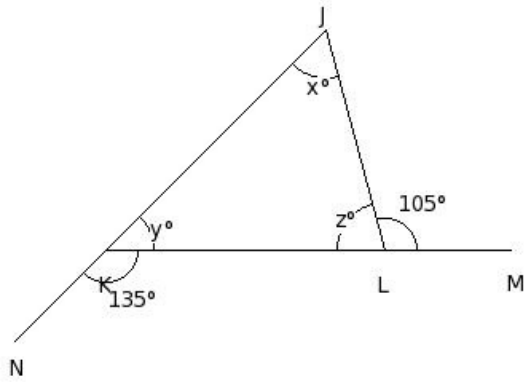
11. In the following figure, one side of a triangle has been produced. Find all the angles of the triangle.



(i) K=58°,L=45°,M=77° (ii) K=60°,L=43°,M=77° (iii) K=58°,L=47°,M=75° (iv) K=60°,L=45°,M=75°

(v) K=62°,L=45°,M=73°

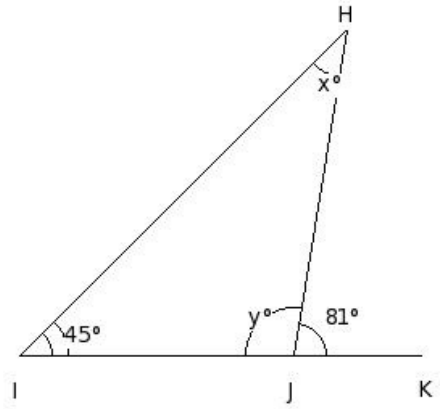
12. In the following figure, two sides of a triangle have been produced. Find all the angles of the triangle.



(i) x=58°,y=47°,z=75° (ii) x=62°,y=45°,z=73° (iii) x=58°,y=45°,z=77° (iv) x=60°,y=43°,z=77°

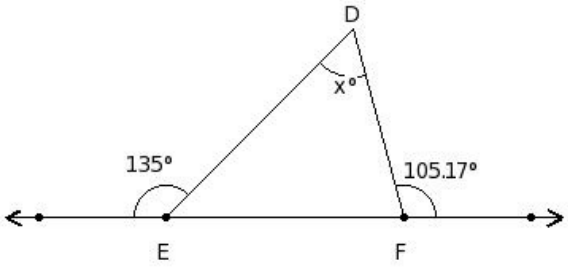
(v) x=60°,y=45°,z=75°

13. In the following figure, one side of a triangle has been produced. Find the values of x and y.



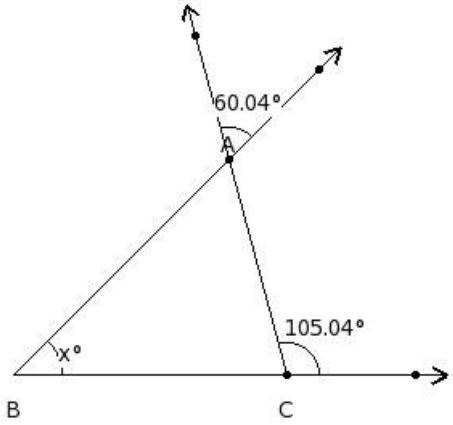
(i) x=35°,y=98° (ii) x=38°,y=101° (iii) x=37°,y=100° (iv) x=34°,y=97° (v) x=36°,y=99°

14. Calculate the value of the lettered angle in the following figure



(i) x=62.17° (ii) x=61.17° (iii) x=60.17° (iv) x=59.17° (v) x=58.17°

15. Calculate the value of the lettered angle in the following figure



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

16. In △BCD, if ∠B = 54° and ∠C = 69°, find the measure of ∠D

(i) D=57° (ii) D=56° (iii) D=58° (iv) D=59° (v) D=55°

17. In △HIJ, if ∠H = 30° and ∠I = ∠J, find the measure of each of the equal angles of the triangle

(i) 75° (ii) 76° (iii) 74° (iv) 77° (v) 73°

18. One angle of a triangle measures 60° and the other two angles are in the ratio 3 : 5. Find these angles.

(i) B=43°,C=73° (ii) B=45°,C=75° (iii) B=44°,C=74° (iv) B=47°,C=77° (v) B=46°,C=76°

19. In a right-angled triangle, the two acute angles are in the ratio 1 : 5. Find these angles.

(i) A=15°,C=75° (ii) A=17°,C=77° (iii) A=16°,C=76° (iv) A=14°,C=74° (v) A=13°,C=73°

20. One of the two equal angles of an isosceles triangle measures 63°. Find the measure of each angle of the triangle.

(i) A=61°,B=63°,C=56° (ii) A=63°,B=63°,C=54° (iii) A=61°,B=65°,C=54° (iv) A=65°,B=63°,C=52°

(v) A=63°,B=61°,C=56°

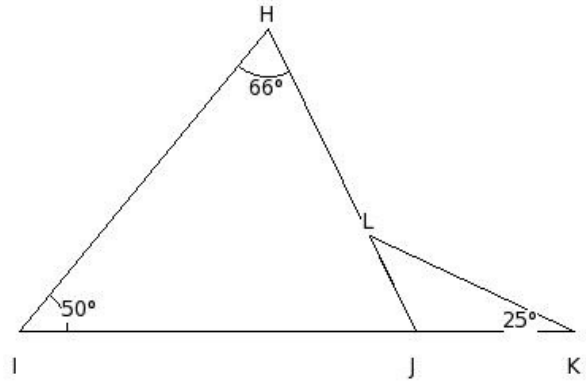
21. If all the three angles of a triangle are of the same measure, find the measure of each of the angles.

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

22. In a right-angled triangle if one of the acute angles is 28°, find the measure of the other acute angle.

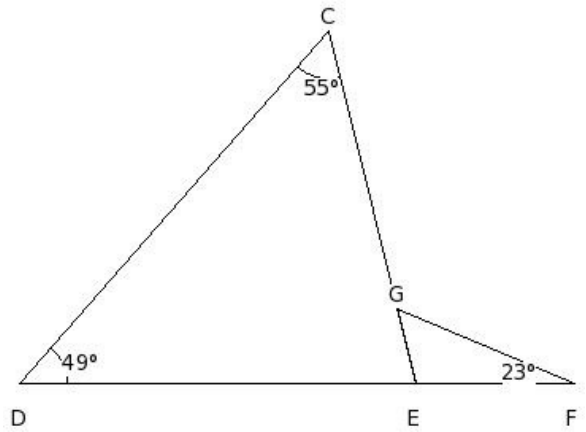
(i) 60° (ii) 63° (iii) 62° (iv) 64° (v) 61°

23. In the given figure, find ∠IJH



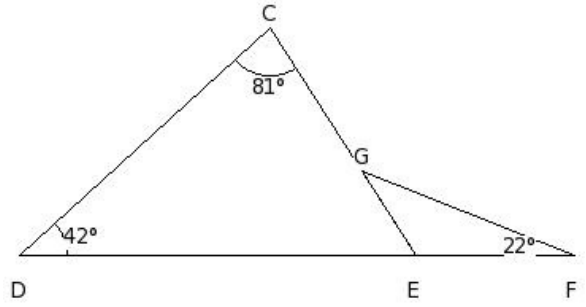
(i) 63° (ii) 65° (iii) 64° (iv) 66° (v) 62°

24. In the given figure, find ∠GEF



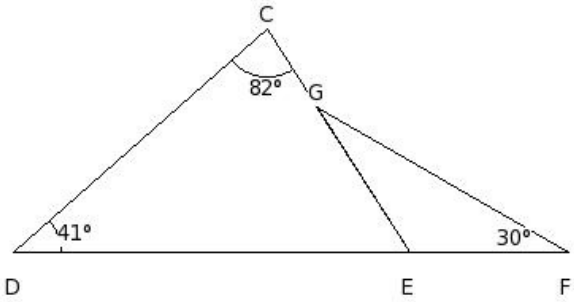
(i) 106° (ii) 104° (iii) 103° (iv) 102° (v) 105°

25. In the given figure, find ∠FGE



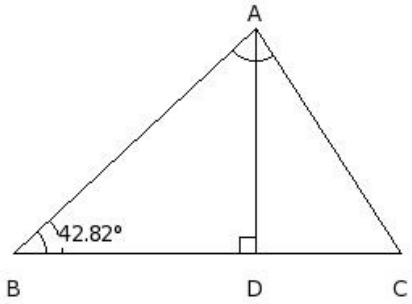
(i) 36° (ii) 34° (iii) 35° (iv) 33° (v) 37°

26. In the given figure, find ∠CGF



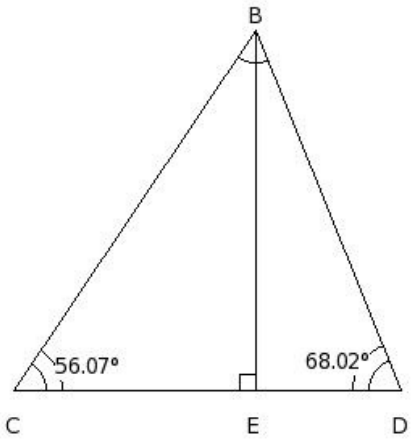
(i) 155° (ii) 152° (iii) 151° (iv) 154° (v) 153°

27. In the given figure , if DA ⊥ BC and ∠ABD = 42.82°, find ∠DAB



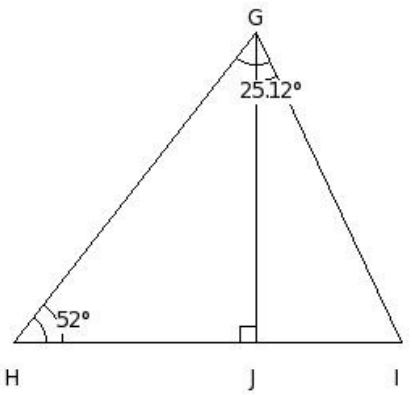
(i) 48.18° (ii) 45.18° (iii) 46.18° (iv) 49.18° (v) 47.18°

28. In the given figure , if EB ⊥ CD and ∠BCE = 56.07°, find ∠DBE



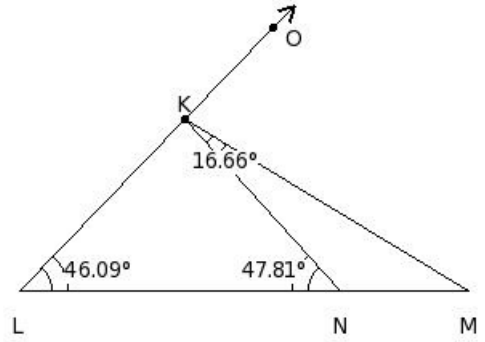
(i) 22.98° (ii) 19.98° (iii) 20.98° (iv) 21.98° (v) 23.98°

29. In the given figure , if JG ⊥ HI and ∠GHJ = 52°, find ∠JIG



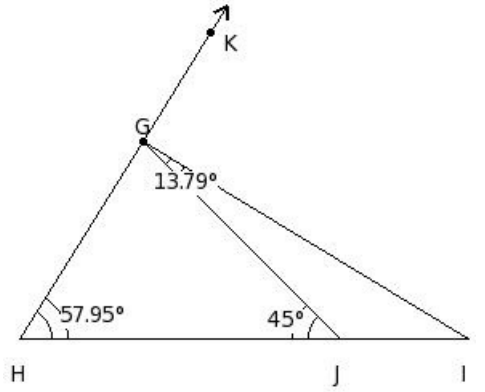
(i) 66.88° (ii) 65.88° (iii) 62.88° (iv) 64.88° (v) 63.88°

30. In below given figure, find ∠KNM



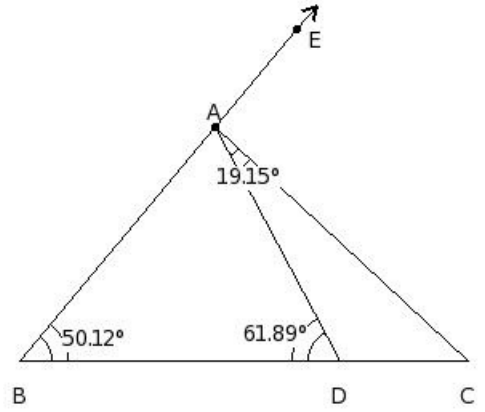
(i) 132.19° (ii) 133.19° (iii) 134.19° (iv) 130.19° (v) 131.19°

31. In below given figure, find ∠JGH



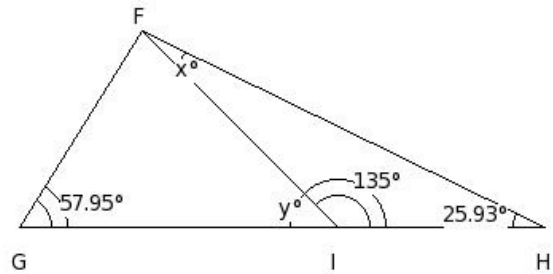
(i) 76.05° (ii) 78.05° (iii) 77.05° (iv) 75.05° (v) 79.05°

32. In below given figure, find ∠CAE



(i) 92.86° (ii) 94.86° (iii) 91.86° (iv) 90.86° (v) 93.86°

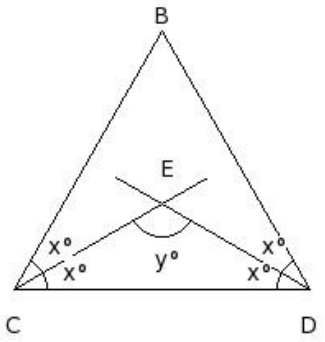
33. In the given figure, find the values of x and y.



(i) x=21.07°,y=47° (ii) x=18.07°,y=44° (iii) x=17.07°,y=43° (iv) x=19.07°,y=45°

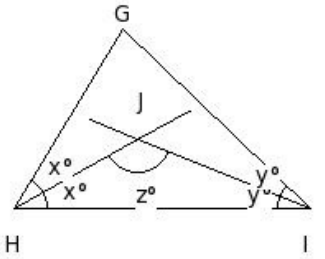
(v) x=20.07°,y=46°

34. In the given figure, $\triangle BCD$ is a triangle in which $\angle B = \angle C = \angle D$.
This bisectors of $\angle C$ and $\angle D$ intersect at E. Find $\angle E =$



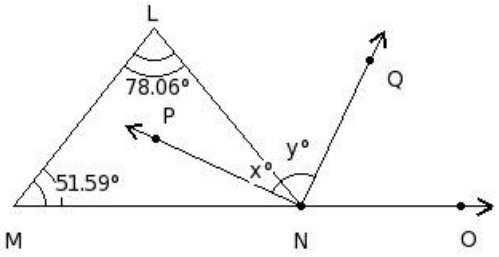
(i) 121° (ii) 120° (iii) 122° (iv) 119° (v) 118°

35. In the given figure, $\triangle GHI$ is a triangle in which $\angle H = 58.8°$ and $\angle I = 43.71°$.
If 'z' is the angle between the bisector of $\angle H$ and $\angle I$, then find z.



(i) 127.74° (ii) 130.74° (iii) 126.74° (iv) 128.74° (v) 129.74°

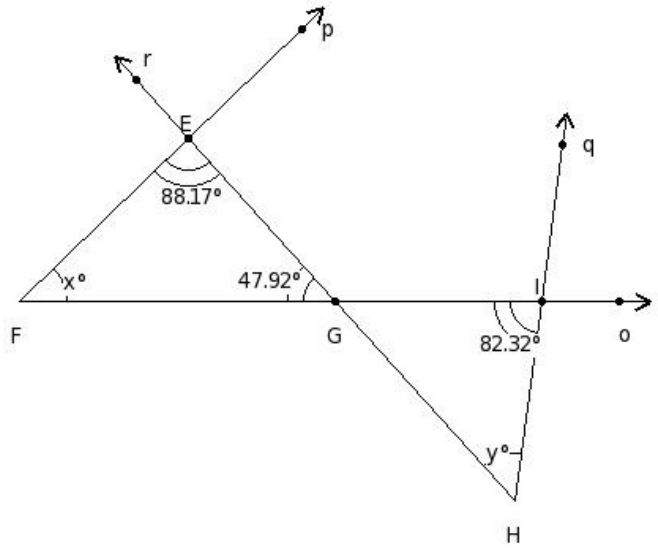
36. In the given figure, $\angle L = 78.06°$ and $\angle M = 51.59°$.
Side MN is produced to O, so that $\angle MNL$ and $\angle LNO$ form a linear pair.
If $\overrightarrow{NP}$ and $\overrightarrow{NQ}$ are the bisectors of $\angle MNL$ and $\angle LNO$, find x and y.



(i) $x=26.18°, y=65.83°$ (ii) $x=25.18°, y=64.83°$ (iii) $x=23.18°, y=62.83°$ (iv) $x=24.18°, y=63.83°$

(v) $x=27.18°, y=66.83°$

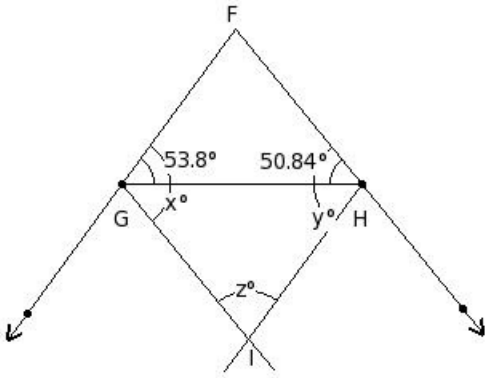
37. In the given figure, find the values of x and y



(i) x=43.91°,y=49.76° (ii) x=44.91°,y=50.76° (iii) x=41.91°,y=47.76° (iv) x=42.91°,y=48.76°

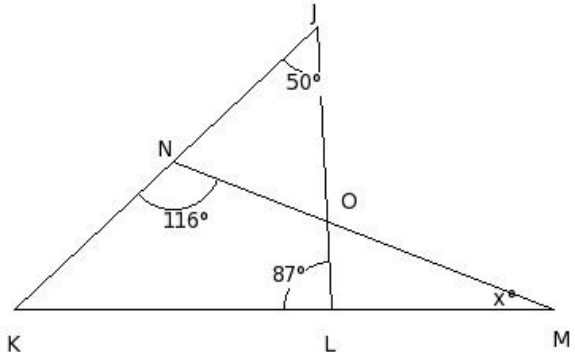
(v) x=45.91°,y=51.76°

38. In the given figure, △FGH in which ∠G = 53.8° and ∠H = 50.84°. FI and GH bisects each other. Find the value of z



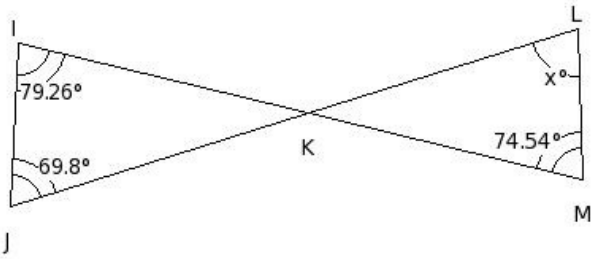
(i) z=77.36° (ii) z=73.36° (iii) z=75.36° (iv) z=74.36° (v) z=76.36°

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



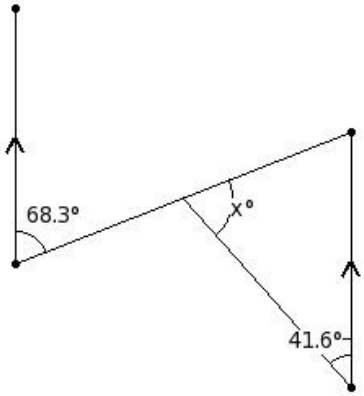
(i) x=20° (ii) x=19° (iii) x=22° (iv) x=21° (v) x=23°

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



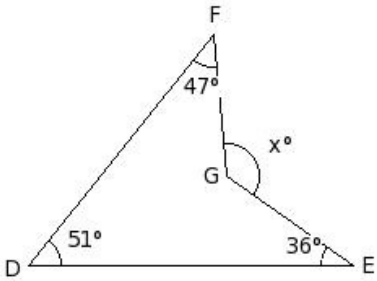
(i) x=74.52° (ii) x=76.52° (iii) x=73.52° (iv) x=72.52° (v) x=75.52°

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



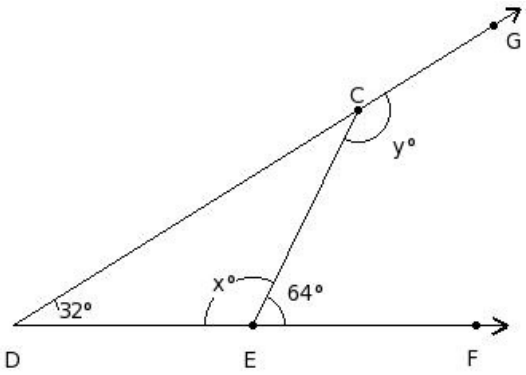
(i) x=69.1° (ii) x=68.1° (iii) x=71.1° (iv) x=72.1° (v) x=70.1°

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



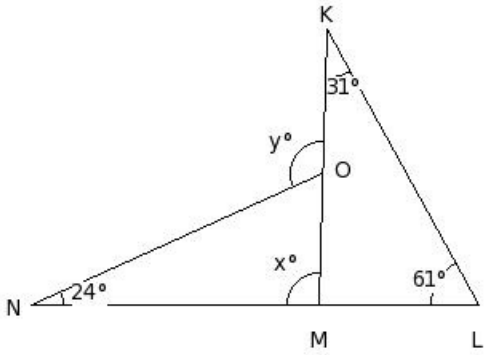
(i) x=135° (ii) x=133° (iii) x=132° (iv) x=134° (v) x=136°

43. Find the unknown marked angles in the following figure



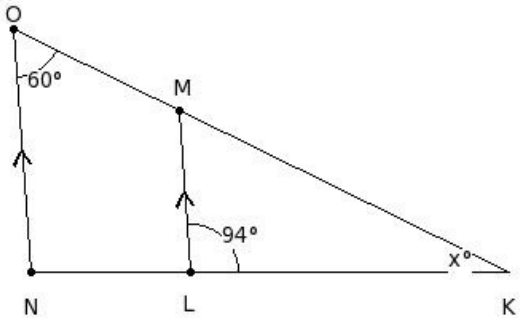
(i) x=114°,y=146° (ii) x=115°,y=147° (iii) x=116°,y=148° (iv) x=118°,y=150° (v) x=117°,y=149°

44. Find the unknown marked angles in the following figure



(i) x=94°,y=118° (ii) x=91°,y=115° (iii) x=92°,y=116° (iv) x=93°,y=117° (v) x=90°,y=114°

45. In the given figure, it is given that ML ∥ ON , ∠MON = 60° and ∠MLK = 94°. Find the value of x.



(i) x=26° (ii) x=24° (iii) x=25° (iv) x=28° (v) x=27°

Assignment Key

1) (iv)	2) (iv)	3) (ii)	4) (i)	5) (iii)	6) (i)
7) (i)	8) (iii)	9) (iv)	10) (iv)	11) (iv)	12) (v)
13) (v)	14) (iii)	15) (iv)	16) (i)	17) (i)	18) (ii)
19) (i)	20) (ii)	21) (iii)	22) (iii)	23) (iii)	24) (ii)
25) (iii)	26) (v)	27) (v)	28) (iv)	29) (iv)	30) (i)
31) (iii)	32) (i)	33) (iv)	34) (ii)	35) (iv)	36) (ii)
37) (i)	38) (iii)	39) (iv)	40) (i)	41) (v)	42) (iv)
43) (iii)	44) (iii)	45) (i)			