EduSahara™ Assignment

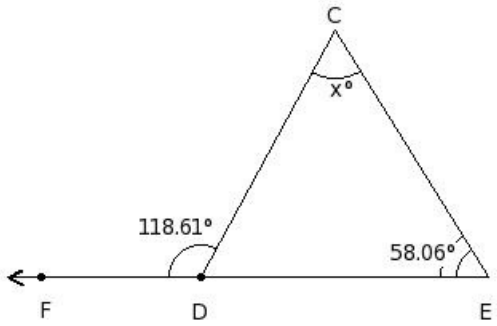
Name : Triangle Exterior Angle Properties using Diagrams

Chapter : Triangles and Its Properties

Grade : SSC Grade VII

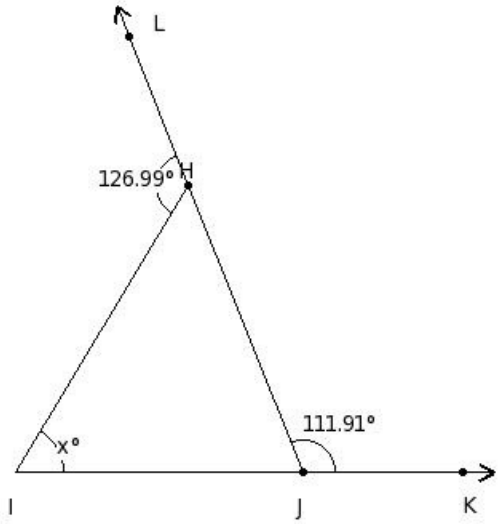


1. Calculate the value of x in the following figure



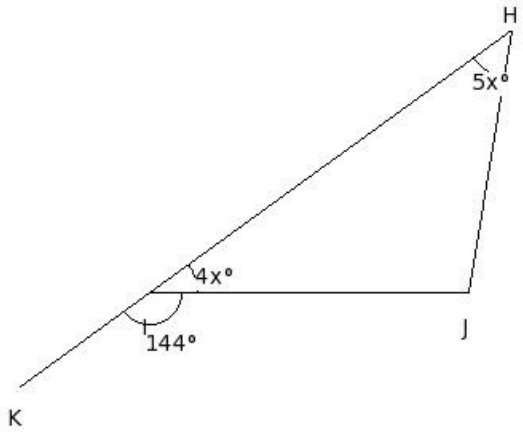

(i) x=59.55° (ii) x=60.55° (iii) x=62.55° (iv) x=61.55° (v) x=58.55°

2. Find the unknown marked angle in the following figure




(i) x=59.9° (ii) x=56.9° (iii) x=60.9° (iv) x=58.9° (v) x=57.9°

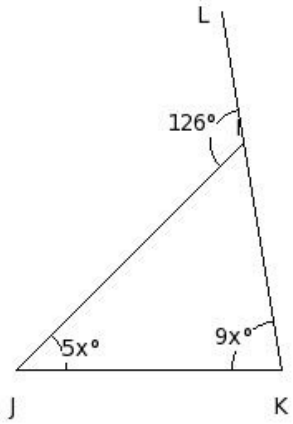
3. In the following figure, one side of a triangle has been produced. Find all the angles of the triangle




(i) H=43°,I=38°,J=99° (ii) H=43°,I=36°,J=101° (iii) H=45°,I=36°,J=99° (iv) H=45°,I=34°,J=101°

(v) H=47°,I=36°,J=97°

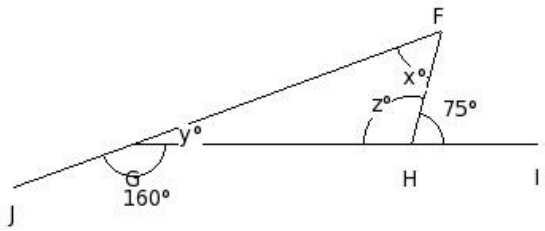
4. In the following figure, one side of a triangle has been produced. Find all the angles of the triangle.




(i) I=54°,J=43°,K=83° (ii) I=52°,J=45°,K=83° (iii) I=52°,J=47°,K=81° (iv) I=54°,J=45°,K=81°

(v) I=56°,J=45°,K=79°

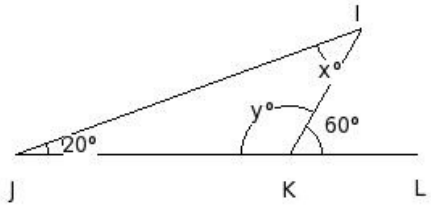
5. In the following figure, two sides of a triangle have been produced. Find all the angles of the triangle.




(i) x=53°,y=22°,z=105° (ii) x=57°,y=20°,z=103° (iii) x=53°,y=20°,z=107° (iv) x=55°,y=18°,z=107°

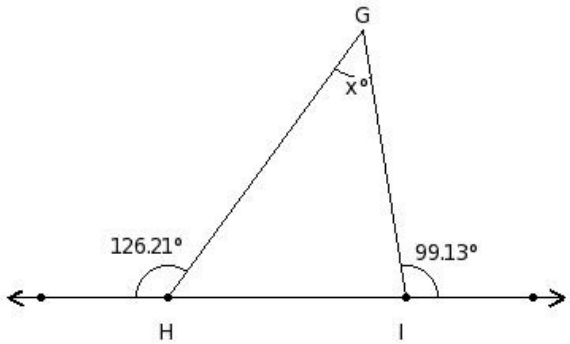
(v) x=55°,y=20°,z=105°

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



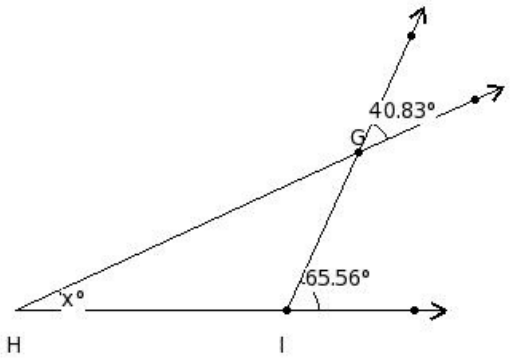

(i) x=41°,y=121° (ii) x=38°,y=118° (iii) x=39°,y=119° (iv) x=40°,y=120° (v) x=42°,y=122°

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



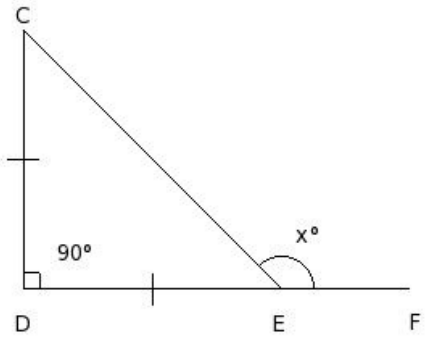

(i) x=45.34° (ii) x=43.34° (iii) x=47.34° (iv) x=44.34° (v) x=46.34°

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



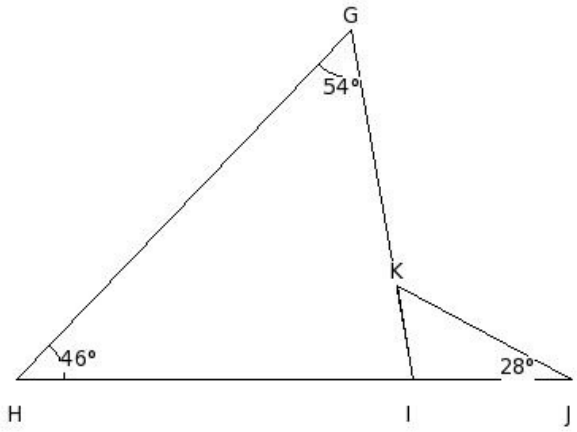

(i) x=25.73° (ii) x=24.73° (iii) x=23.73° (iv) x=22.73° (v) x=26.73°

9. Find the unknown angle in the following figure



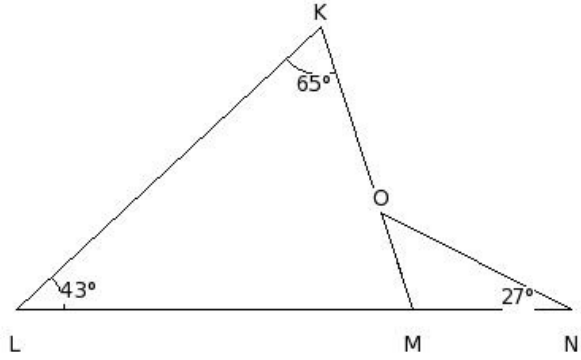

(i) x=137° (ii) x=134° (iii) x=136° (iv) x=133° (v) x=135°

10. In the given figure, find ∠HIG



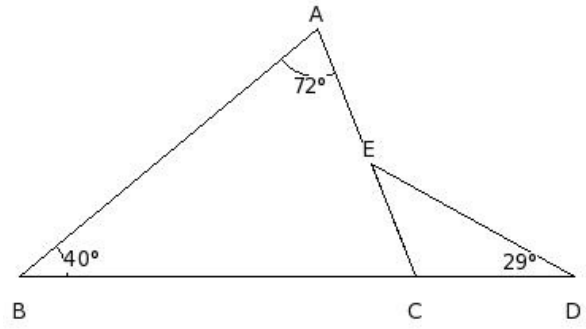

(i) 78° (ii) 81° (iii) 79° (iv) 82° (v) 80°

11. In the given figure, find ∠OMN



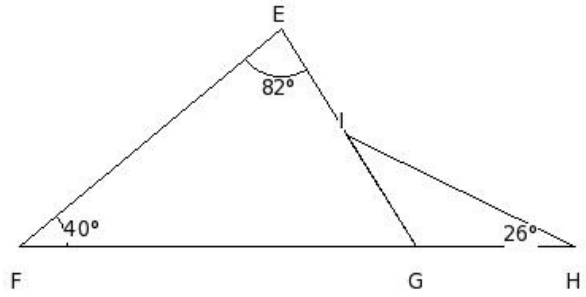

(i) 108° (ii) 107° (iii) 110° (iv) 106° (v) 109°

12. In the given figure, find ∠DEC



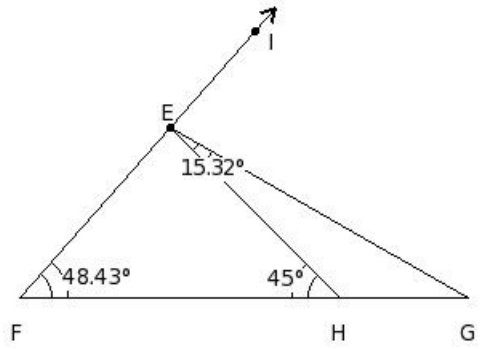

(i) 40° (ii) 38° (iii) 37° (iv) 39° (v) 41°

13. In the given figure, find ∠EIH



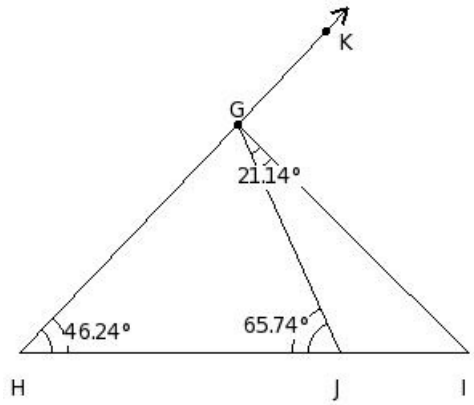

(i) 146° (ii) 149° (iii) 150° (iv) 147° (v) 148°

14. In below given figure, find ∠EHG



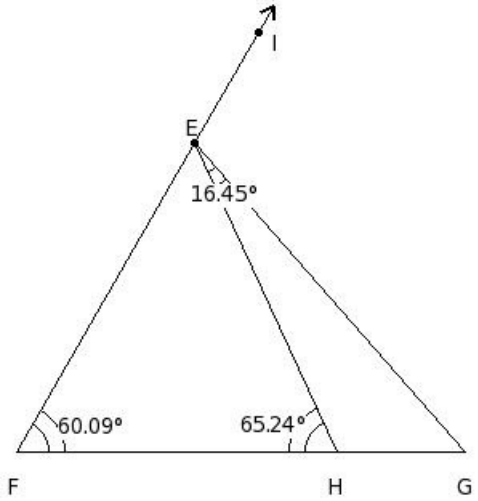

(i) 136.00° (ii) 133.00° (iii) 137.00° (iv) 134.00° (v) 135.00°

15. In below given figure, find ∠JGH



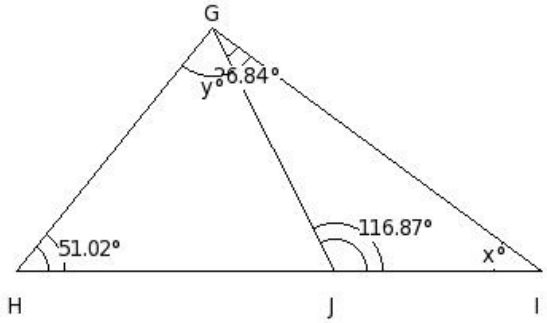

(i) 68.02° (ii) 67.02° (iii) 66.02° (iv) 69.02° (v) 70.02°

16. In below given figure, find ∠GEI




(i) 108.88° (ii) 109.88° (iii) 107.88° (iv) 106.88° (v) 110.88°

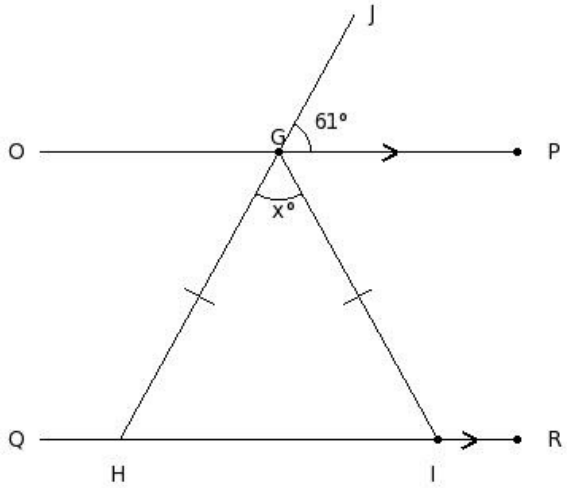
17. In the given figure, find the values of x and y.




(i) x=36.29°,y=65.85° (ii) x=34.29°,y=63.85° (iii) x=37.29°,y=66.85° (iv) x=35.29°,y=64.85°

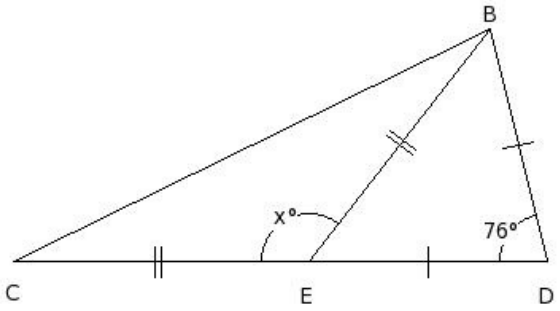
(v) x=38.29°,y=67.85°

18. In the given figure, OP ∥ QR, ∠JGP = 61° and GH = IG. Find the measure of x.



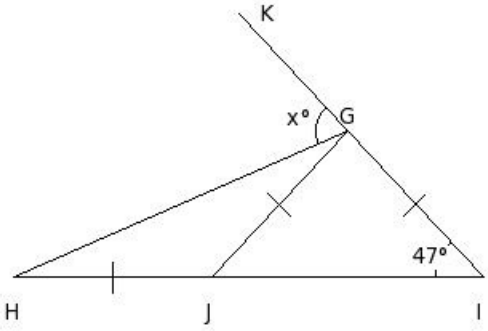

(i) x=58° (ii) x=59° (iii) x=57° (iv) x=60° (v) x=56°

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



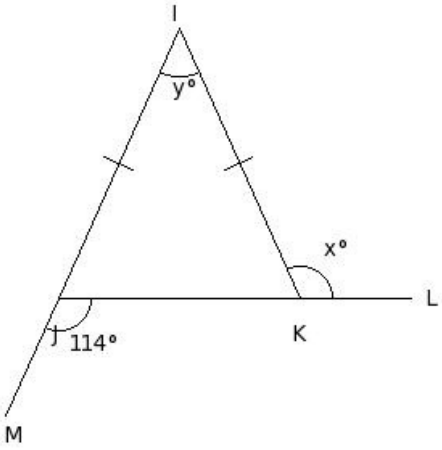

(i) x=126° (ii) x=129° (iii) x=128° (iv) x=127° (v) x=130°

20. In the given figure, if IG = GJ = HJ. Find the value of x.



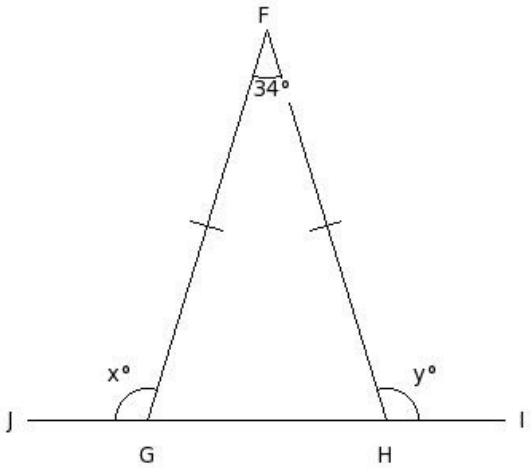

(i) x=72.5° (ii) x=71.5° (iii) x=69.5° (iv) x=68.5° (v) x=70.5°

21. Find the unknown marked angles in the following figure



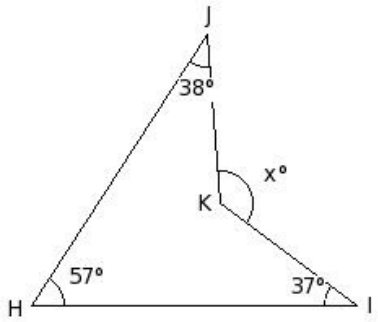

(i) x=115°,y=49° (ii) x=116°,y=50° (iii) x=112°,y=46° (iv) x=114°,y=48° (v) x=113°,y=47°

22. Find the unknown marked angles in the following figure



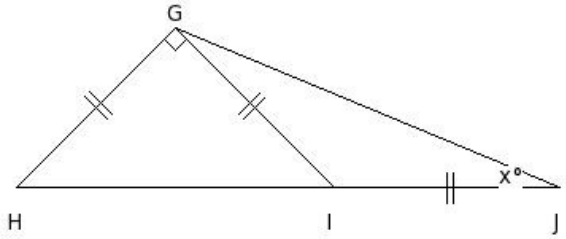

(i) x=107°,y=107° (ii) x=105°,y=105° (iii) x=109°,y=109° (iv) x=106°,y=106° (v) x=108°,y=108°

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



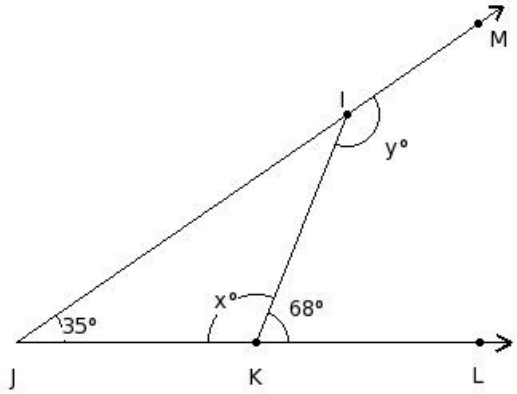

(i) x=130° (ii) x=131° (iii) x=132° (iv) x=133° (v) x=134°

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



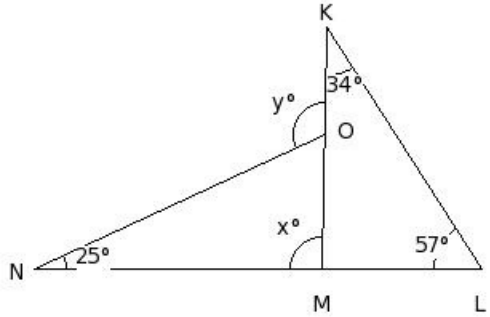

(i) x=21.5° (ii) x=22.5° (iii) x=20.5° (iv) x=23.5° (v) x=24.5°

25. Find the unknown marked angles in the following figure



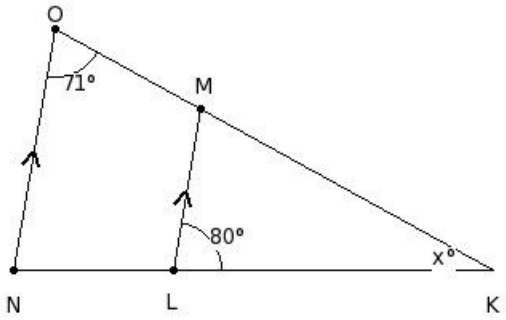

(i) x=112°,y=147° (ii) x=111°,y=146° (iii) x=113°,y=148° (iv) x=114°,y=149° (v) x=110°,y=145°

26. Find the unknown marked angles in the following figure



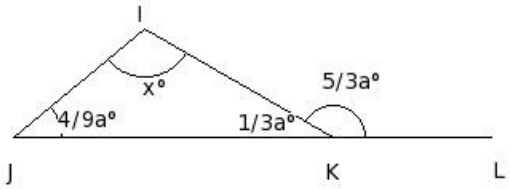

(i) x=93°,y=118° (ii) x=92°,y=117° (iii) x=90°,y=115° (iv) x=91°,y=116° (v) x=89°,y=114°

27. In the given figure, it is given that ML ∥ ON , ∠MON = 71° and ∠MLK = 80°. Find the value of x.




(i) x=30° (ii) x=29° (iii) x=27° (iv) x=31° (v) x=28°

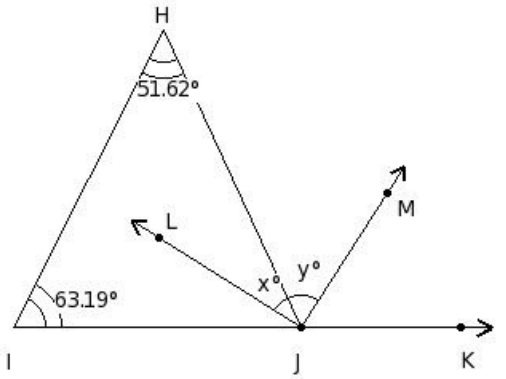
28. In the given figure, △IJK in which side JK has been produced to L. If ∠KIJ = x° , ∠IJK = (4/9a)° , ∠JKI = (1/3a)° and ∠IKL = (5/3a)°, find the values of a and x.




(i) a=90°,x=110° (ii) a=92°,x=112° (iii) a=88°,x=108° (iv) a=89°,x=109° (v) a=91°,x=111°

In the given figure, ∠H = 51.62° and ∠I = 63.19°.

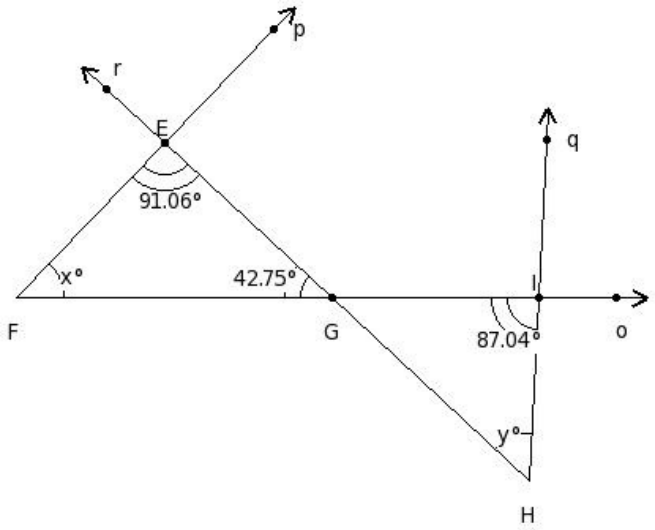
29. Side IJ is produced to K, so that ∠IJH and ∠HJK form a linear pair.
If $\overrightarrow{JL}$ and $\overrightarrow{JM}$ are the bisectors of ∠IJH and ∠HJK, find x and y.




(i) x=34.59°,y=59.41° (ii) x=31.59°,y=56.41° (iii) x=32.59°,y=57.41° (iv) x=30.59°,y=55.41°

(v) x=33.59°,y=58.41°

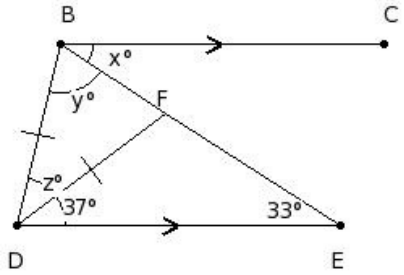
30. In the given figure, find the values of x and y




(i) x=45.19°,y=49.21° (ii) x=47.19°,y=51.21° (iii) x=48.19°,y=52.21° (iv) x=44.19°,y=48.21°

(v) x=46.19°,y=50.21°

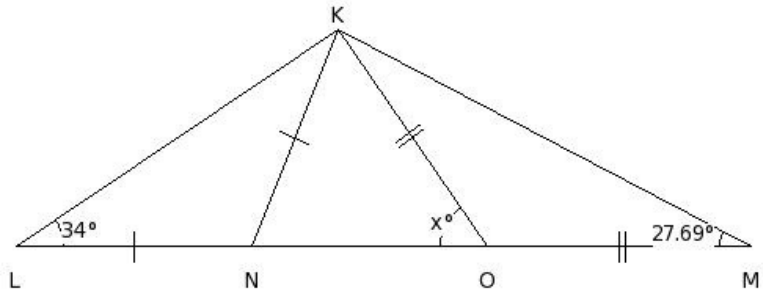
31. In the given figure, BC ∥ DE and BD = DF. Find the values of x,y and z.




(i) x=33°,y=70°,z=40° (ii) x=33°,y=68°,z=42° (iii) x=31°,y=70°,z=42° (iv) x=31°,y=72°,z=40°

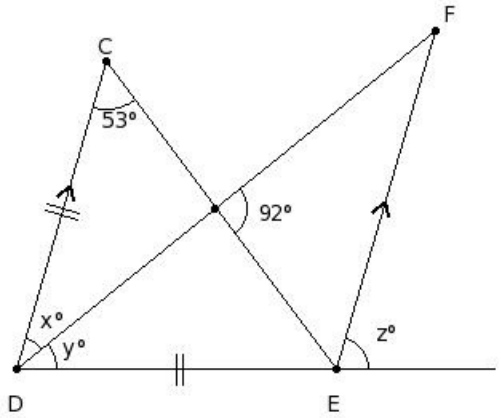
(v) x=35°,y=70°,z=38°

32. In the given figure, if NK = LN and KO = OM , find the value of x.




(i) x=55.38° (ii) x=53.38° (iii) x=54.38° (iv) x=57.38° (v) x=56.38°

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




(i) x=37°,y=39°,z=72° (ii) x=35°,y=37°,z=76° (iii) x=35°,y=39°,z=74° (iv) x=33°,y=41°,z=74°

(v) x=33°,y=39°,z=76°

## Assignment Key

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