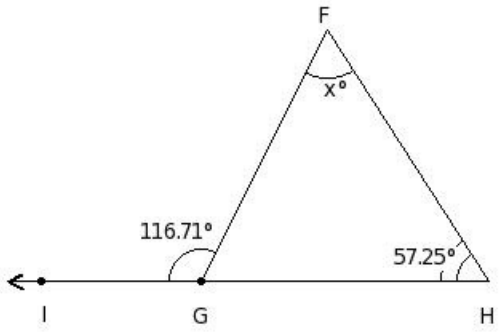
EduSahara™ Assignment

Name : Triangle Exterior Angle Properties using Diagrams

Chapter : Triangles and Its Properties

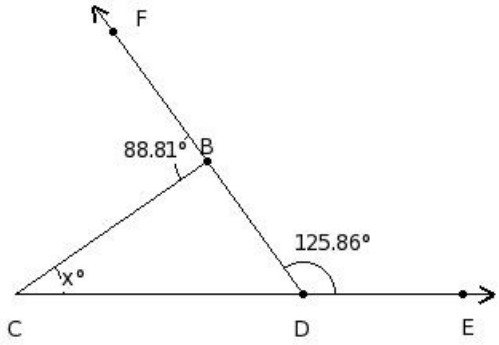
Grade : SSC Grade VII

1. Calculate the value of x in the following figure



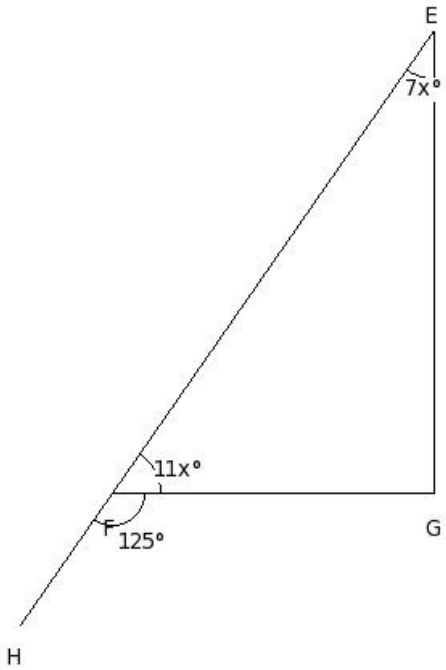
(i) x=58.46° (ii) x=59.46° (iii) x=61.46° (iv) x=57.46° (v) x=60.46°

2. Find the unknown marked angle in the following figure



(i) x=34.67° (ii) x=36.67° (iii) x=32.67° (iv) x=35.67° (v) x=33.67°

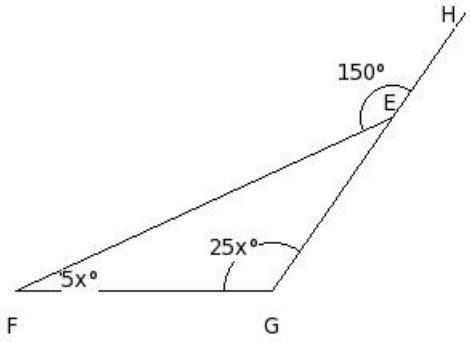
3. In the following figure, one side of a triangle has been produced. Find all the angles of the triangle



(i) E=35°,F=53°,G=92° (ii) E=33°,F=57°,G=90° (iii) E=37°,F=55°,G=88° (iv) E=35°,F=55°,G=90°

(v) E=33°,F=55°,G=92°

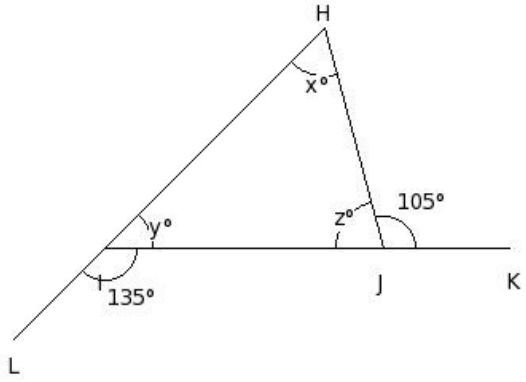
4. In the following figure, one side of a triangle has been produced. Find all the angles of the triangle.



(i) E=28°,F=25°,G=127° (ii) E=28°,F=27°,G=125° (iii) E=30°,F=25°,G=125°

(iv) E=30°,F=23°,G=127° (v) E=32°,F=25°,G=123°

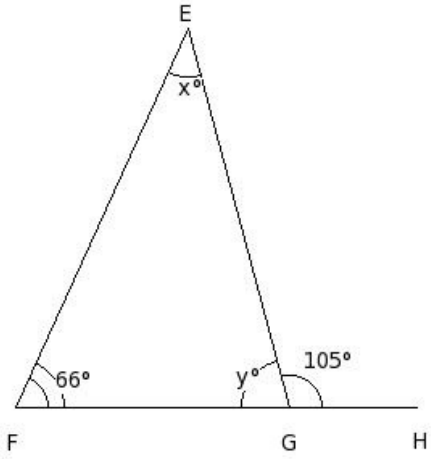
5. In the following figure, two sides of a triangle have been produced. Find all the angles of the triangle.



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

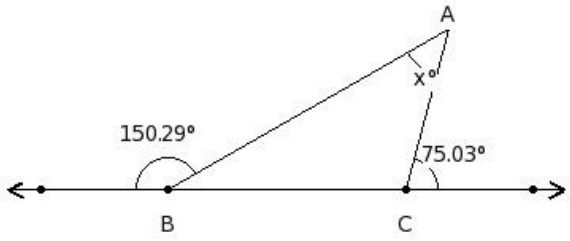
(v) x=62°,y=45°,z=73°

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



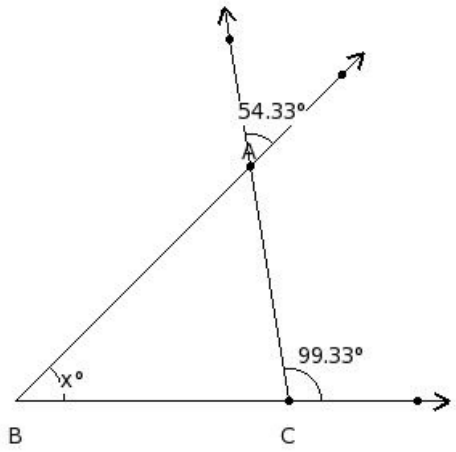
(i) x=40°,y=75° (ii) x=42°,y=77° (iii) x=39°,y=74° (iv) x=41°,y=76° (v) x=38°,y=73°

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



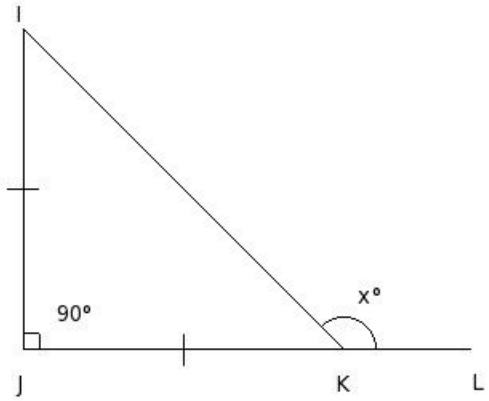
(i) x=44.32° (ii) x=47.32° (iii) x=43.32° (iv) x=45.32° (v) x=46.32°

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



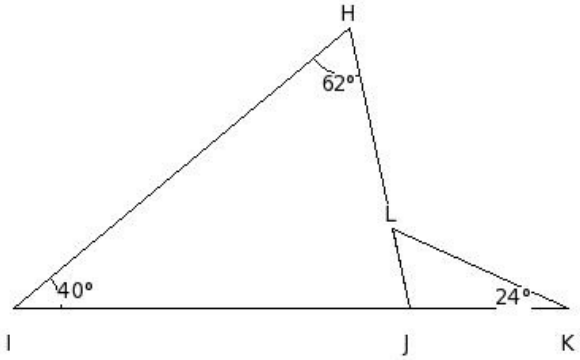
(i) x=44° (ii) x=47° (iii) x=43° (iv) x=46° (v) x=45°

9. Find the unknown angle in the following figure



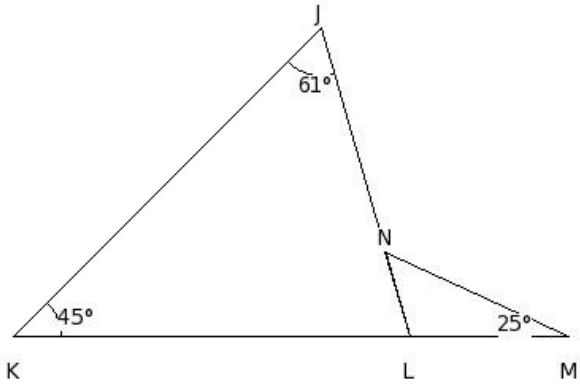
(i) x=136° (ii) x=137° (iii) x=133° (iv) x=135° (v) x=134°

10. In the given figure, find ∠IJH



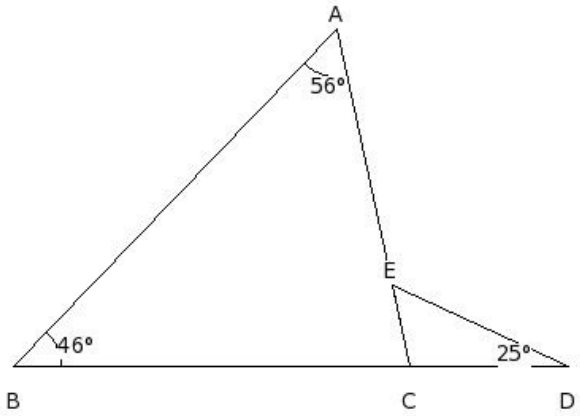
(i) 77° (ii) 76° (iii) 79° (iv) 80° (v) 78°

11. In the given figure, find ∠NLM



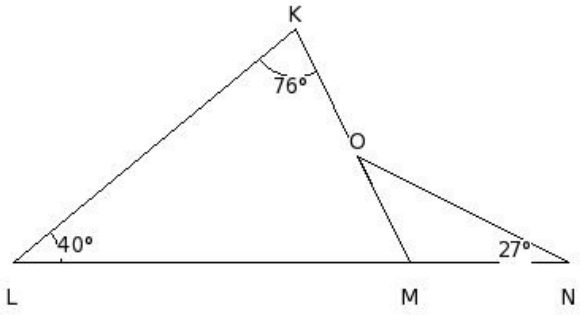
(i) 108° (ii) 106° (iii) 107° (iv) 104° (v) 105°

12. In the given figure, find ∠DEC



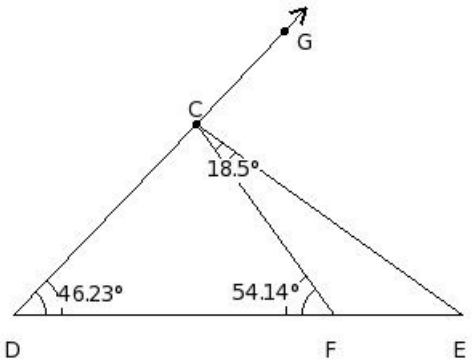
(i) 54° (ii) 55° (iii) 51° (iv) 52° (v) 53°

13. In the given figure, find ∠KON



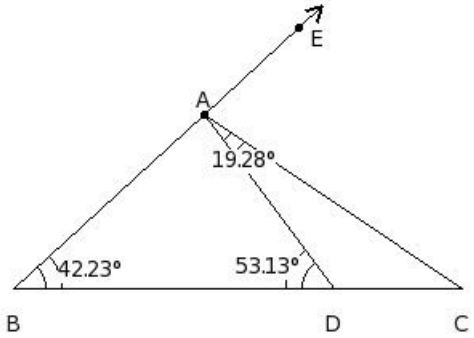
(i) 143° (ii) 145° (iii) 142° (iv) 141° (v) 144°

14. In below given figure, find ∠CFE



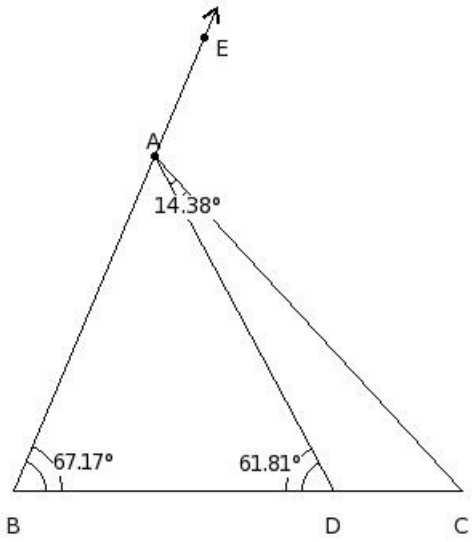
(i) 124.86° (ii) 125.86° (iii) 126.86° (iv) 123.86° (v) 127.86°

15. In below given figure, find ∠DAB



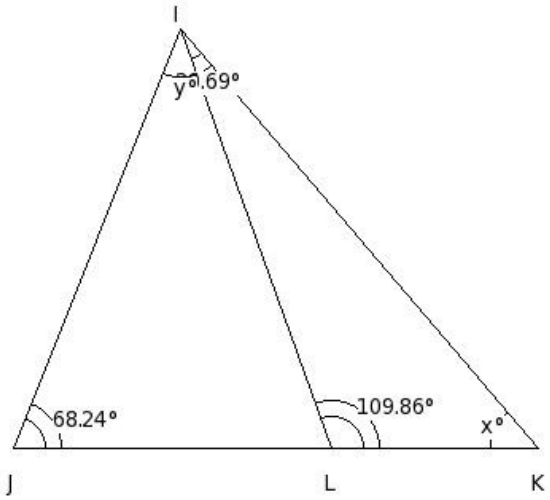
(i) 84.64° (ii) 82.64° (iii) 85.64° (iv) 86.64° (v) 83.64°

16. In below given figure, find ∠CAE



(i) 112.60° (ii) 115.60° (iii) 113.60° (iv) 114.60° (v) 116.60°

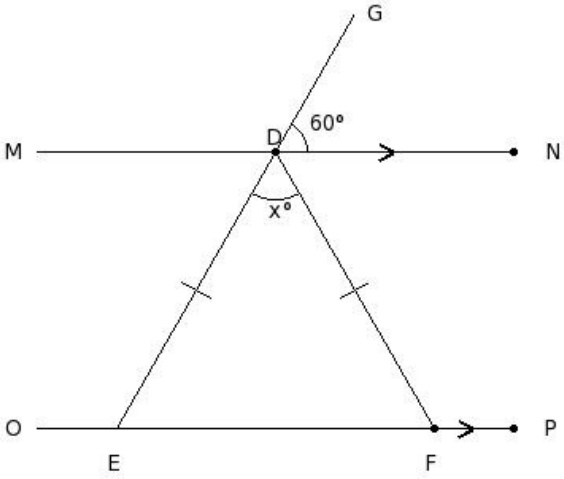
17. In the given figure, find the values of x and y.



(i) x=50.45°,y=42.62° (ii) x=49.45°,y=41.62° (iii) x=48.45°,y=40.62° (iv) x=47.45°,y=39.62°

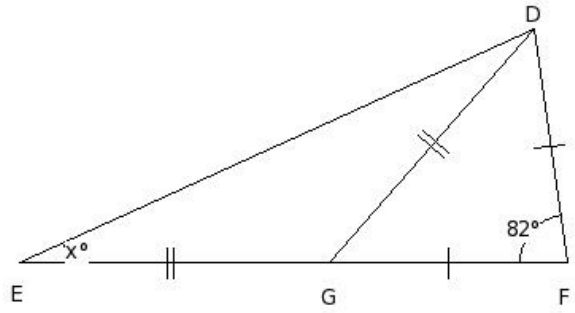
(v) x=51.45°,y=43.62°

18. In the given figure, MN ∥ OP, ∠GDN = 60° and DE = FD. Find the measure of x.



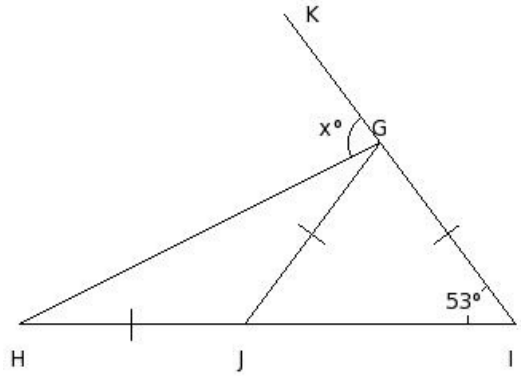
(i) x=59° (ii) x=61° (iii) x=62° (iv) x=60° (v) x=58°

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



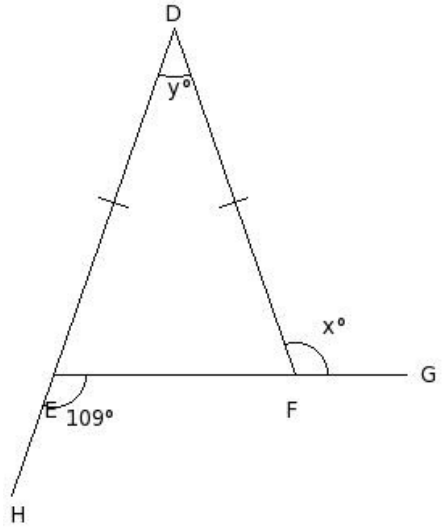
(i) x=26.5° (ii) x=22.5° (iii) x=23.5° (iv) x=25.5° (v) x=24.5°

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



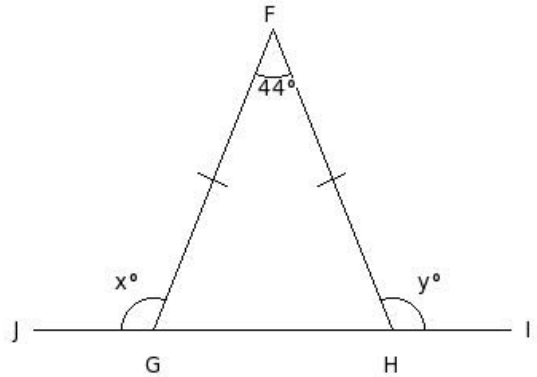
(i) x=77.5° (ii) x=80.5° (iii) x=79.5° (iv) x=78.5° (v) x=81.5°

21. Find the unknown marked angles in the following figure



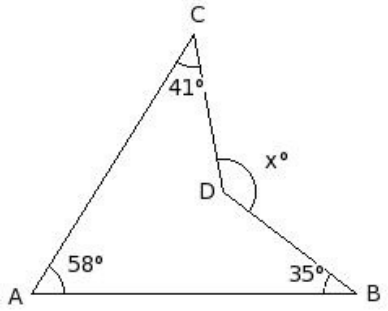
(i) x=109°,y=38° (ii) x=111°,y=40° (iii) x=108°,y=37° (iv) x=107°,y=36° (v) x=110°,y=39°

22. Find the unknown marked angles in the following figure



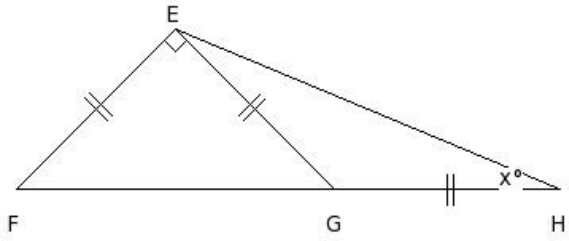
(i) x=114°,y=114° (ii) x=110°,y=110° (iii) x=111°,y=111° (iv) x=113°,y=113° (v) x=112°,y=112°

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



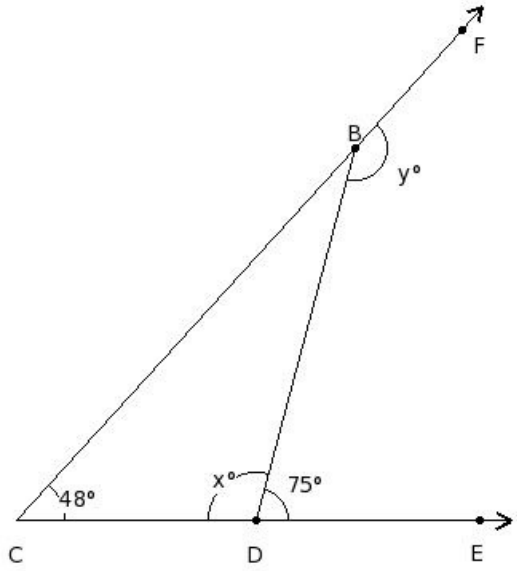
(i) x=136° (ii) x=132° (iii) x=135° (iv) x=133° (v) x=134°

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



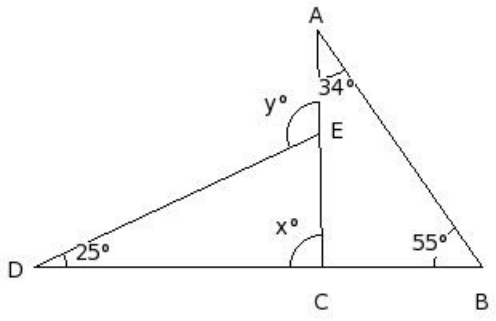
(i) x=22.5° (ii) x=23.5° (iii) x=24.5° (iv) x=21.5° (v) x=20.5°

25. Find the unknown marked angles in the following figure



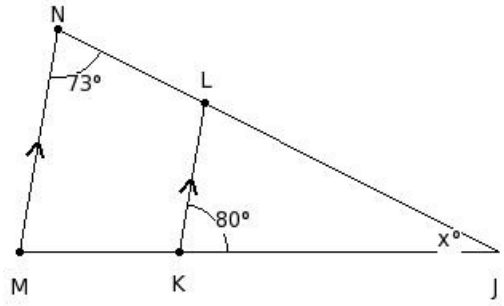
(i) x=105°,y=153° (ii) x=107°,y=155° (iii) x=103°,y=151° (iv) x=106°,y=154° (v) x=104°,y=152°

26. Find the unknown marked angles in the following figure



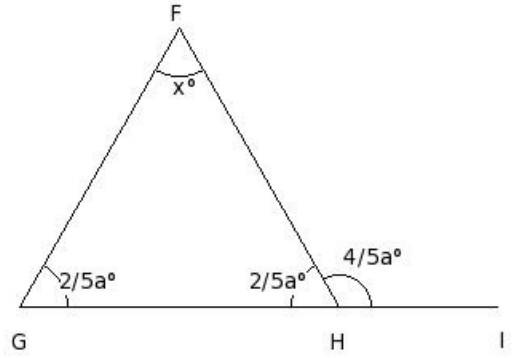
(i) x=88°,y=113° (ii) x=87°,y=112° (iii) x=91°,y=116° (iv) x=90°,y=115° (v) x=89°,y=114°

27. In the given figure, it is given that LK ∥ NM , ∠LNM = 73° and ∠LKJ = 80°. Find the value of x.



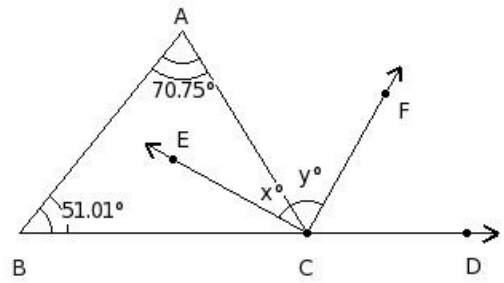
(i) x=26° (ii) x=27° (iii) x=28° (iv) x=25° (v) x=29°

28. In the given figure, △FGH in which side GH has been produced to I. If ∠HFG = x° , ∠FGH = (2/5a)° , ∠GHF = (2/5a)° and ∠FHI = (4/5a)°, find the values of a and x.



(i) a=149°,x=59° (ii) a=148°,x=58° (iii) a=150°,x=60° (iv) a=152°,x=62° (v) a=151°,x=61°

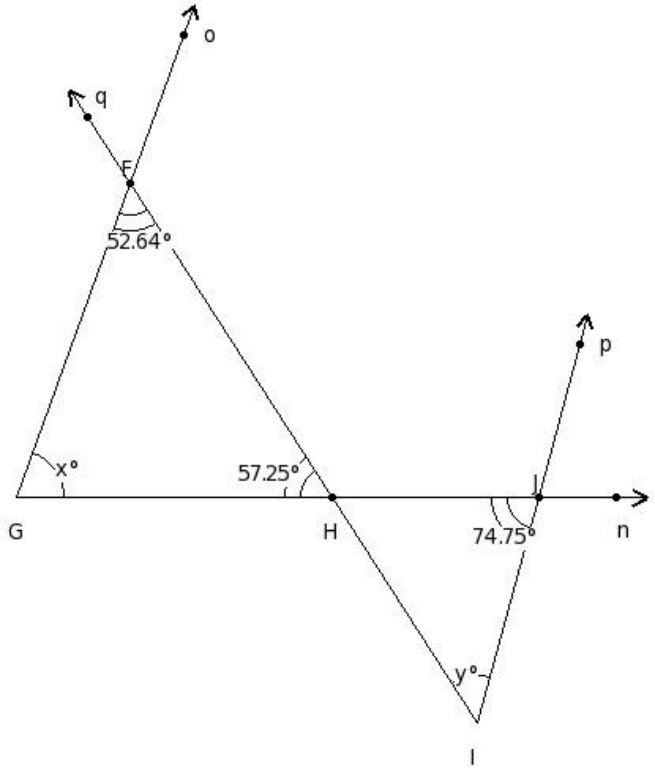
29. In the given figure, ∠A = 70.75° and ∠B = 51.01°.
Side BC is produced to D, so that ∠BCA and ∠ACD form a linear pair.
If $\overrightarrow{CE}$ and $\overrightarrow{CF}$ are the bisectors of ∠BCA and ∠ACD, find x and y.



(i) x=31.12°,y=62.88° (ii) x=30.12°,y=61.88° (iii) x=28.12°,y=59.88° (iv) x=29.12°,y=60.88°

(v) x=27.12°,y=58.88°

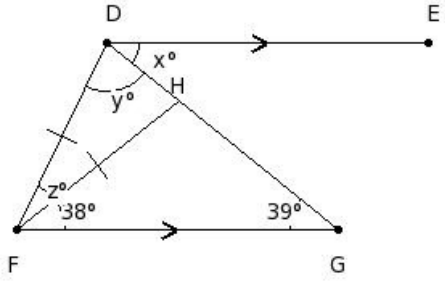
30. In the given figure, find the values of x and y



(i) x=68.11°,y=46° (ii) x=69.11°,y=47° (iii) x=70.11°,y=48° (iv) x=72.11°,y=50°

(v) x=71.11°,y=49°

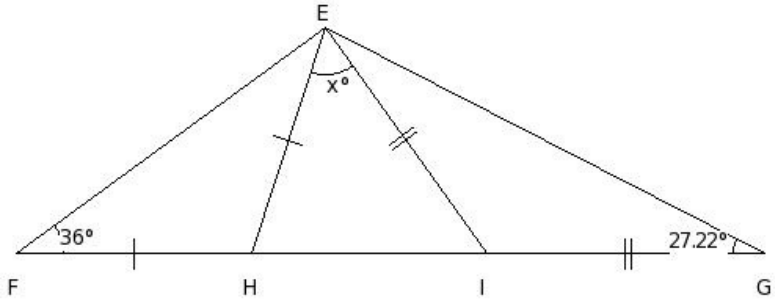
31. In the given figure, DE ∥ FG and DF = FH. Find the values of x,y and z.



(i) x=37°,y=79°,z=26° (ii) x=37°,y=77°,z=28° (iii) x=39°,y=77°,z=26° (iv) x=39°,y=75°,z=28°

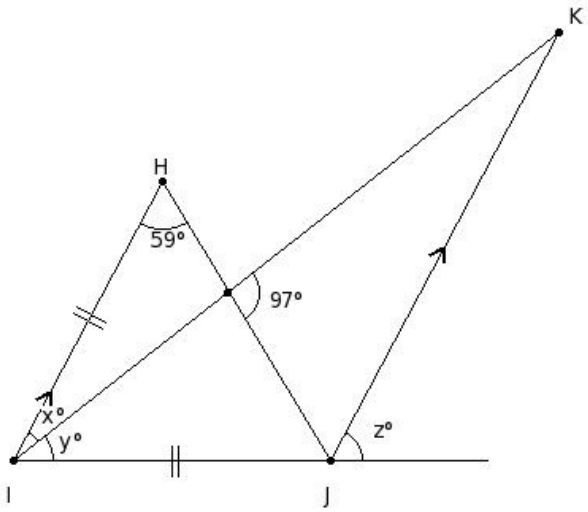
(v) x=41°,y=77°,z=24°

32. In the given figure, if HE = FH and EI = IG , find the value of x.



(i) x=52.56° (ii) x=53.56° (iii) x=54.56° (iv) x=55.56° (v) x=51.56°

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



(i) x=24°,y=38°,z=62° (ii) x=26°,y=38°,z=60° (iii) x=22°,y=40°,z=62° (iv) x=22°,y=38°,z=64°

(v) x=24°,y=36°,z=64°

Assignment Key

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