

**EduSahara™ Learning Center Assignment****Grade : Class VIII, ICSE****Chapter : Triangles****Name : Triangle Problems****Licensed To : Teachers and Students for non-commercial use**

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1. Two angles of a triangle measure  $54^\circ$  and  $58^\circ$  respectively. Find the measure of the third angle of the triangle

(i)  $68^\circ$  (ii)  $67^\circ$  (iii)  $66^\circ$  (iv)  $69^\circ$  (v)  $70^\circ$

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

(i)  $A = 58^\circ$ ,  $B = 42^\circ$ ,  $C = 80^\circ$

(ii)  $A = 58^\circ$ ,  $B = 40^\circ$ ,  $C = 82^\circ$

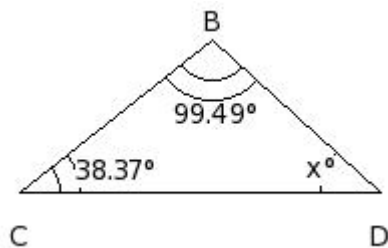
(iii)  $A = 62^\circ$ ,  $B = 40^\circ$ ,  $C = 78^\circ$

(iv)  $A = 60^\circ$ ,  $B = 38^\circ$ ,  $C = 82^\circ$

(v)  $A = 60^\circ$ ,  $B = 40^\circ$ ,  $C = 80^\circ$

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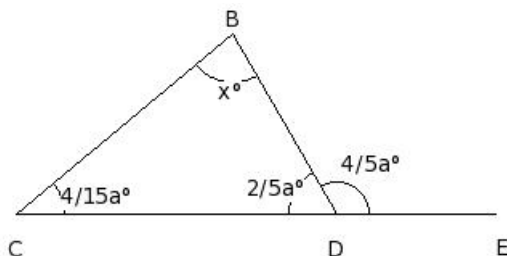
3. Find the unknown angle from the following figure



(i)  $x = 40.14^\circ$  (ii)  $x = 42.14^\circ$  (iii)  $x = 41.14^\circ$  (iv)  $x = 43.14^\circ$  (v)  $x = 44.14^\circ$

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4. In the given figure,  $\triangle BCD$  in which side CD has been produced to E. If  $\angle DBC = x^\circ$ ,  $\angle BCD = (4/15a)^\circ$ ,  $\angle CDB = (2/5a)^\circ$  and  $\angle BDE = (4/5a)^\circ$ , find the values of a and x.



(i)  $a = 151^\circ$ ,  $x = 81^\circ$

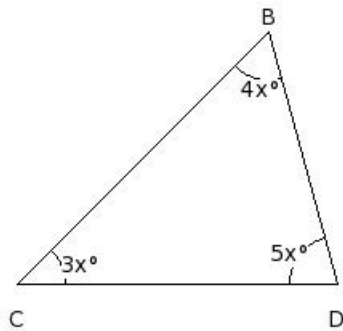
(ii)  $a = 148^\circ$ ,  $x = 78^\circ$

(iii)  $a = 152^\circ$ ,  $x = 82^\circ$

(iv)  $a = 149^\circ$ ,  $x = 79^\circ$

(v)  $a = 150^\circ$ ,  $x = 80^\circ$

5. Find the angles of the triangle



(i)  $B = 62^\circ$ ,  $C = 45^\circ$ ,  $D = 73^\circ$

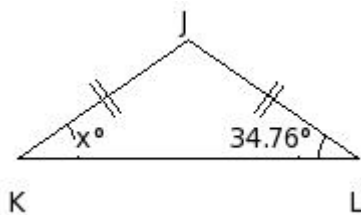
(ii)  $B = 60^\circ$ ,  $C = 45^\circ$ ,  $D = 75^\circ$

(iii)  $B = 58^\circ$ ,  $C = 45^\circ$ ,  $D = 77^\circ$

(iv)  $B = 58^\circ$ ,  $C = 47^\circ$ ,  $D = 75^\circ$

(v)  $B = 60^\circ$ ,  $C = 43^\circ$ ,  $D = 77^\circ$

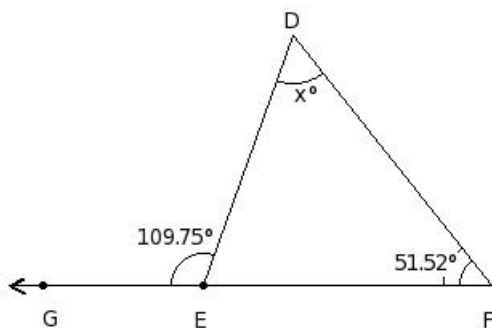
6. Calculate the value of  $x$  in the following figure



(i)  $x = 33.76^\circ$  (ii)  $x = 32.76^\circ$  (iii)  $x = 36.76^\circ$

(iv)  $x = 34.76^\circ$  (v)  $x = 35.76^\circ$

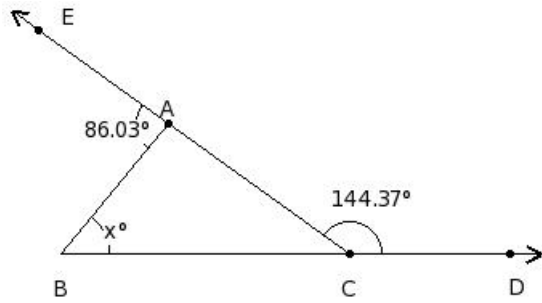
7. Calculate the value of  $x$  in the following figure



(i)  $x = 60.23^\circ$  (ii)  $x = 58.23^\circ$  (iii)  $x = 57.23^\circ$

(iv)  $x = 59.23^\circ$  (v)  $x = 56.23^\circ$

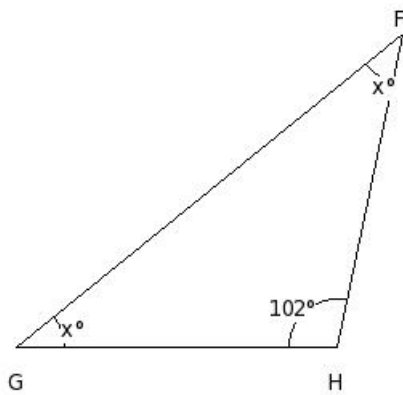
8. Find the unknown marked angle in the following figure



(i)  $x = 50.4^\circ$  (ii)  $x = 51.4^\circ$  (iii)  $x = 48.4^\circ$

(iv)  $x = 52.4^\circ$  (v)  $x = 49.4^\circ$

9. Find the unknown angles in the following figure



(i)  $F = 38^\circ, G = 38^\circ$

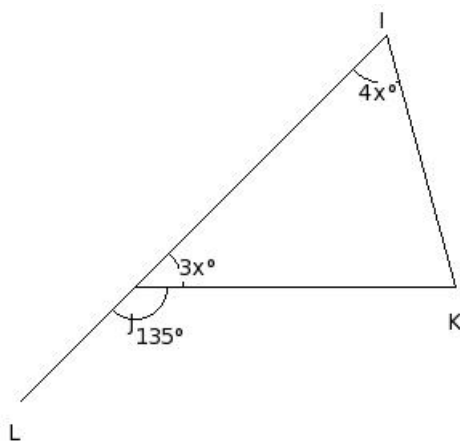
(ii)  $F = 41^\circ, G = 41^\circ$

(iii)  $F = 37^\circ, G = 37^\circ$

(iv)  $F = 40^\circ, G = 40^\circ$

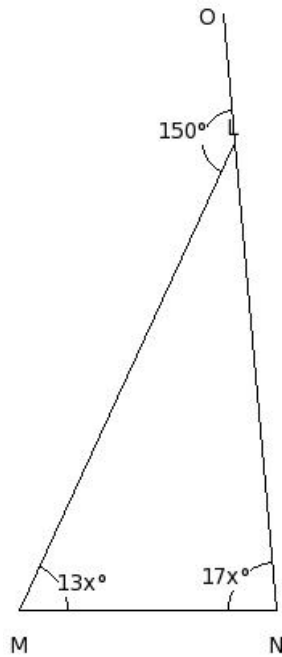
(v)  $F = 39^\circ, G = 39^\circ$

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



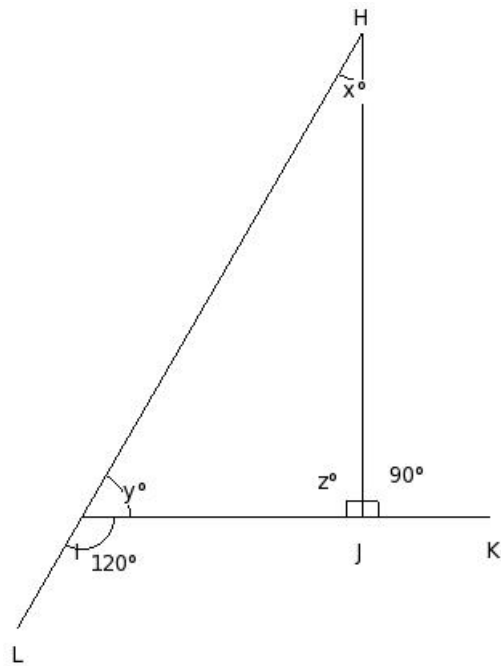
- (i)  $I = 60^\circ, J = 45^\circ, K = 75^\circ$
  - (ii)  $I = 58^\circ, J = 45^\circ, K = 77^\circ$
  - (iii)  $I = 62^\circ, J = 45^\circ, K = 73^\circ$
  - (iv)  $I = 60^\circ, J = 43^\circ, K = 77^\circ$
  - (v)  $I = 58^\circ, J = 47^\circ, K = 75^\circ$
- 

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



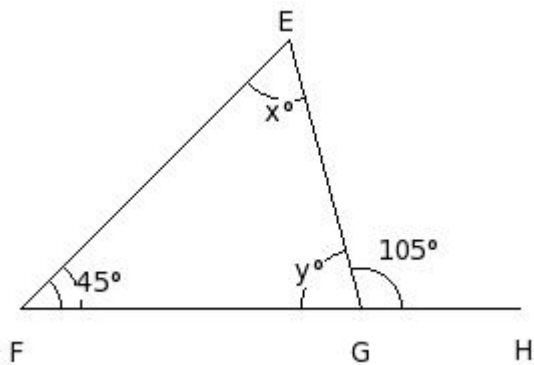
- (i)  $L = 28^\circ, M = 67^\circ, N = 85^\circ$
  - (ii)  $L = 32^\circ, M = 65^\circ, N = 83^\circ$
  - (iii)  $L = 28^\circ, M = 65^\circ, N = 87^\circ$
  - (iv)  $L = 30^\circ, M = 63^\circ, N = 87^\circ$
  - (v)  $L = 30^\circ, M = 65^\circ, N = 85^\circ$
- 

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



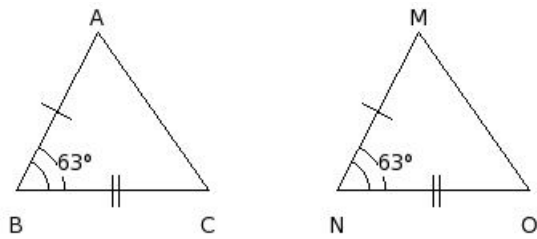
- (i)  $x = 30^\circ, y = 58^\circ, z = 92^\circ$
- (ii)  $x = 32^\circ, y = 60^\circ, z = 88^\circ$
- (iii)  $x = 30^\circ, y = 60^\circ, z = 90^\circ$
- (iv)  $x = 28^\circ, y = 62^\circ, z = 90^\circ$
- (v)  $x = 28^\circ, y = 60^\circ, z = 92^\circ$

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



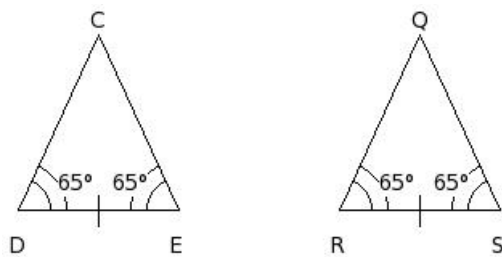
- (i)  $x = 58^\circ, y = 73^\circ$
- (ii)  $x = 60^\circ, y = 75^\circ$
- (iii)  $x = 62^\circ, y = 77^\circ$
- (iv)  $x = 61^\circ, y = 76^\circ$
- (v)  $x = 59^\circ, y = 74^\circ$

14. Identify the property by which the two given triangles are congruent



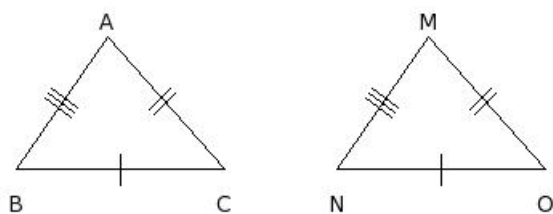
- (i) RHS Congruency
  - (ii) ASA Congruency
  - (iii) SAS Congruency
  - (iv) SSS Congruency
- 

15. Identify the property by which the two given triangles are congruent



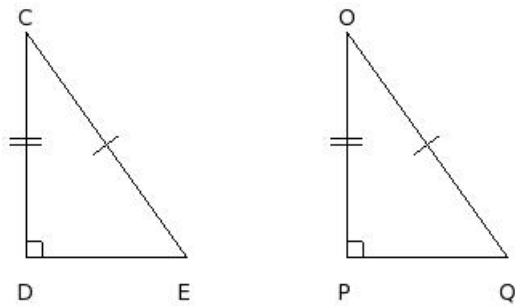
- (i) ASA Congruency
  - (ii) RHS Congruency
  - (iii) SSS Congruency
  - (iv) SAS Congruency
- 

16. Identify the property by which the two given triangles are congruent



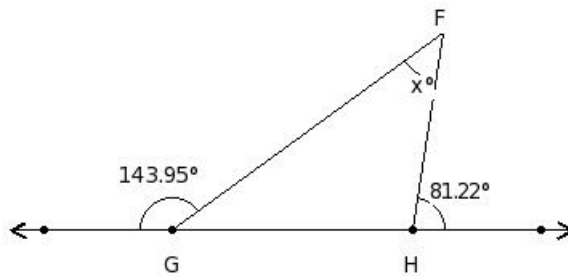
- (i) RHS Congruency
  - (ii) SAS Congruency
  - (iii) SSS Congruency
  - (iv) ASA Congruency
- 

17. Identify the property by which the two given triangles are congruent



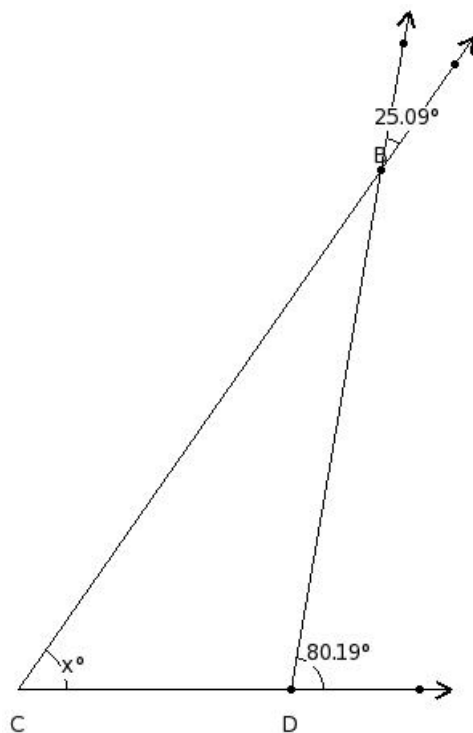
- (i) SAS Congruency
- (ii) ASA Congruency
- (iii) SSS Congruency
- (iv) RHS Congruency

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



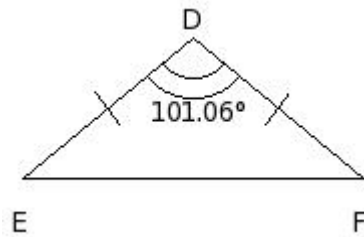
- (i)  $x = 43.17^\circ$  (ii)  $x = 44.17^\circ$  (iii)  $x = 46.17^\circ$
- (iv)  $x = 45.17^\circ$  (v)  $x = 47.17^\circ$

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



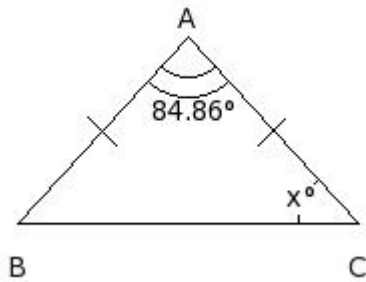
- (i)  $x = 55.1^\circ$  (ii)  $x = 57.1^\circ$  (iii)  $x = 54.1^\circ$   
(iv)  $x = 56.1^\circ$  (v)  $x = 53.1^\circ$
- 

20. In the given triangle,  $\angle D = 101.06^\circ$ . Find the measure of  $\angle E$  and  $\angle F$



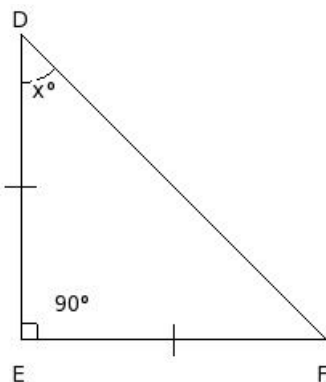
- (i)  $\angle E = \angle F = 41.47^\circ$   
(ii)  $\angle E = \angle F = 37.47^\circ$   
(iii)  $\angle E = \angle F = 40.47^\circ$   
(iv)  $\angle E = \angle F = 38.47^\circ$   
(v)  $\angle E = \angle F = 39.47^\circ$
- 

21. Find the unknown angle in the following figure



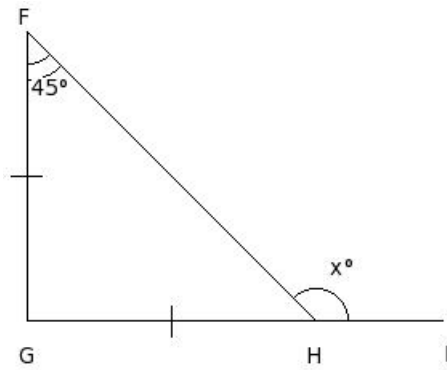
- (i)  $x = 48.57^\circ$  (ii)  $x = 49.57^\circ$  (iii)  $x = 47.57^\circ$   
(iv)  $x = 45.57^\circ$  (v)  $x = 46.57^\circ$
- 

22. Find the unknown angle in the following figure



- (i)  $x = 47^\circ$  (ii)  $x = 45^\circ$  (iii)  $x = 46^\circ$   
(iv)  $x = 44^\circ$  (v)  $x = 43^\circ$
-

23. Find the unknown angle in the following figure



- (i)  $x = 133^\circ$  (ii)  $x = 135^\circ$  (iii)  $x = 134^\circ$   
(iv)  $x = 136^\circ$  (v)  $x = 137^\circ$
- 

24. In  $\triangle FGH$ , if  $\angle F = 63^\circ$  and  $\angle G = 58^\circ$ , find the measure of  $\angle H$

- (i)  $H = 57^\circ$  (ii)  $H = 59^\circ$  (iii)  $H = 58^\circ$  (iv)  $H = 61^\circ$  (v)  $H = 60^\circ$
- 

25. In  $\triangle FGH$ , if  $\angle F = 60^\circ$  and  $\angle G = \angle H$ , find the measure of each of the equal angles of the triangle

- (i)  $59^\circ$  (ii)  $62^\circ$  (iii)  $58^\circ$  (iv)  $61^\circ$  (v)  $60^\circ$
- 

26. One angle of a triangle measures  $20^\circ$  and the other two angles are in the ratio 11 : 21. Find these angles.

- (i)  $B = 53^\circ, C = 103^\circ$   
(ii)  $B = 56^\circ, C = 106^\circ$   
(iii)  $B = 57^\circ, C = 107^\circ$   
(iv)  $B = 55^\circ, C = 105^\circ$   
(v)  $B = 54^\circ, C = 104^\circ$
- 

27. In a right-angled triangle, the two acute angles are in the ratio 5 : 4. Find these angles.

- (i)  $A = 52^\circ, C = 42^\circ$   
(ii)  $A = 50^\circ, C = 40^\circ$   
(iii)  $A = 51^\circ, C = 41^\circ$   
(iv)  $A = 48^\circ, C = 38^\circ$   
(v)  $A = 49^\circ, C = 39^\circ$
- 

28. One of the two equal angles of an isosceles triangle measures  $65^\circ$ . Find the measure of each angle of the triangle.

- (i)  $A = 63^\circ, B = 67^\circ, C = 50^\circ$
  - (ii)  $A = 65^\circ, B = 63^\circ, C = 52^\circ$
  - (iii)  $A = 65^\circ, B = 65^\circ, C = 50^\circ$
  - (iv)  $A = 63^\circ, B = 65^\circ, C = 52^\circ$
  - (v)  $A = 67^\circ, B = 65^\circ, C = 48^\circ$
- 

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

- (i)  $46^\circ$  (ii)  $43^\circ$  (iii)  $47^\circ$  (iv)  $45^\circ$  (v)  $44^\circ$
- 

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

- (i)  $60^\circ$  (ii)  $59^\circ$  (iii)  $61^\circ$  (iv)  $62^\circ$  (v)  $58^\circ$
- 

31. In a right-angled triangle if one of the acute angles is  $46^\circ$ , find the measure of the other acute angle.

- (i)  $43^\circ$  (ii)  $45^\circ$  (iii)  $42^\circ$  (iv)  $46^\circ$  (v)  $44^\circ$
- 

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

- (i)  $A = 120^\circ, B = 30^\circ, C = 30^\circ$
  - (ii)  $A = 118^\circ, B = 30^\circ, C = 32^\circ$
  - (iii)  $A = 122^\circ, B = 30^\circ, C = 28^\circ$
  - (iv)  $A = 120^\circ, B = 28^\circ, C = 32^\circ$
  - (v)  $A = 118^\circ, B = 32^\circ, C = 30^\circ$
- 

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

- (i)  $A = 20^\circ, B = 80^\circ, C = 80^\circ$
  - (ii)  $A = 22^\circ, B = 80^\circ, C = 78^\circ$
  - (iii)  $A = 18^\circ, B = 82^\circ, C = 80^\circ$
  - (iv)  $A = 18^\circ, B = 80^\circ, C = 82^\circ$
  - (v)  $A = 20^\circ, B = 78^\circ, C = 82^\circ$
- 

34. The ratio between the base angle and the vertical angle of an isosceles triangle is 4 : 1. Find each angle of the triangle

- (i)  $A = 18^\circ, B = 82^\circ, C = 80^\circ$
- (ii)  $A = 18^\circ, B = 80^\circ, C = 82^\circ$

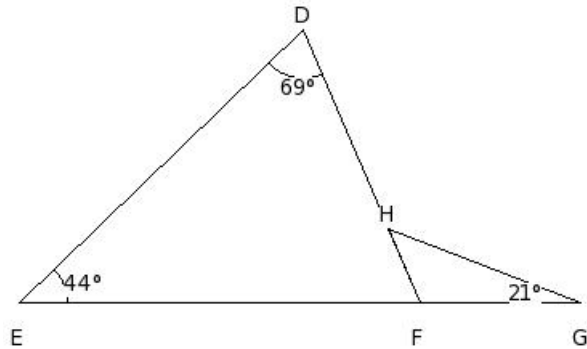
(iii)  $A = 20^\circ$ ,  $B = 80^\circ$ ,  $C = 80^\circ$

(iv)  $A = 20^\circ$ ,  $B = 78^\circ$ ,  $C = 82^\circ$

(v)  $A = 22^\circ$ ,  $B = 80^\circ$ ,  $C = 78^\circ$

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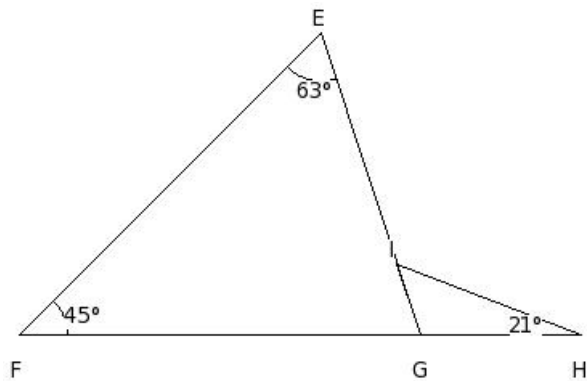
35. In the given figure, find  $\angle EFD$



- (i)  $66^\circ$  (ii)  $68^\circ$  (iii)  $65^\circ$  (iv)  $67^\circ$  (v)  $69^\circ$

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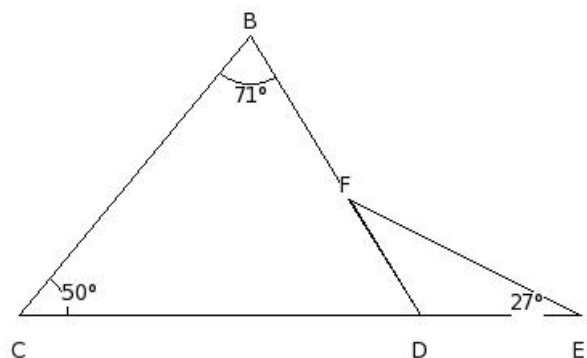
36. In the given figure, find  $\angle IGH$



- (i)  $109^\circ$  (ii)  $107^\circ$  (iii)  $110^\circ$  (iv)  $106^\circ$  (v)  $108^\circ$

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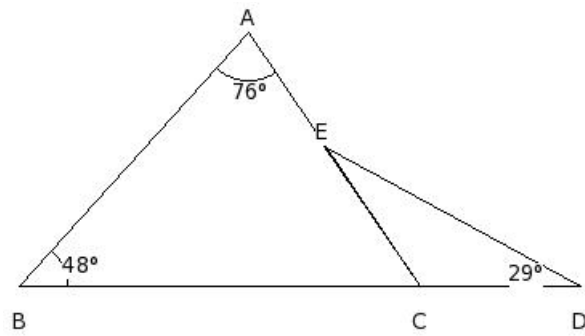
37. In the given figure, find  $\angle EFD$



- (i)  $34^\circ$  (ii)  $33^\circ$  (iii)  $32^\circ$  (iv)  $30^\circ$  (v)  $31^\circ$

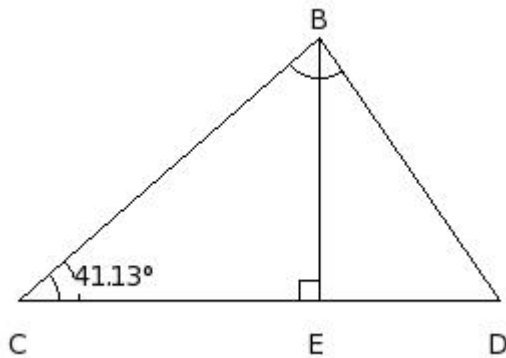
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38. In the given figure, find  $\angle AED$



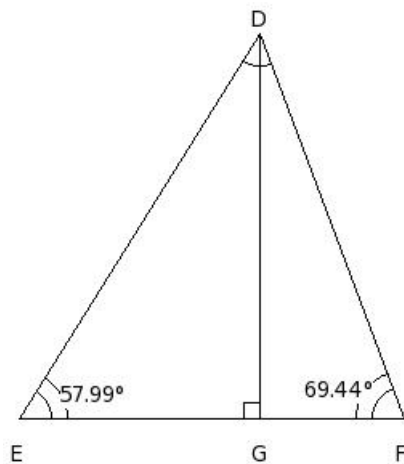
- (i)  $153^\circ$  (ii)  $151^\circ$  (iii)  $152^\circ$  (iv)  $155^\circ$  (v)  $154^\circ$

39. In the given figure , if  $EB \perp CD$  and  $\angle BCE = 41.13^\circ$ , find  $\angle EBC$



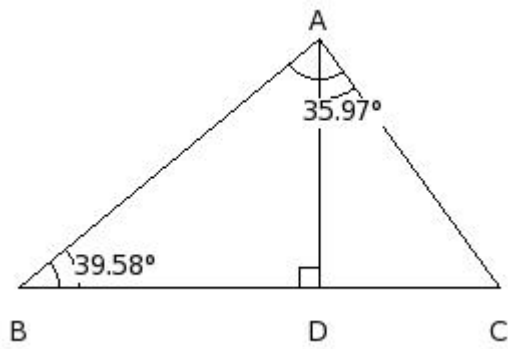
- (i)  $47.87^\circ$  (ii)  $50.87^\circ$  (iii)  $46.87^\circ$  (iv)  $48.87^\circ$  (v)  $49.87^\circ$

40. In the given figure , if  $GD \perp EF$  and  $\angle DEG = 57.99^\circ$ , find  $\angle FDG$



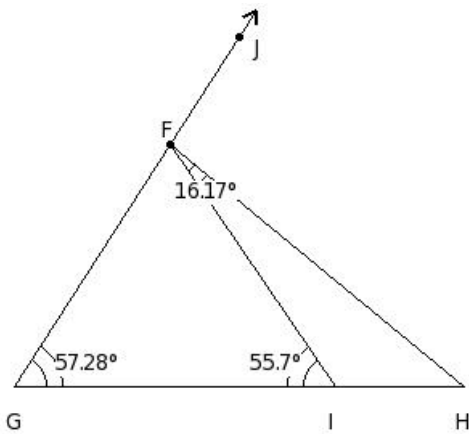
- (i)  $21.56^\circ$  (ii)  $20.56^\circ$  (iii)  $18.56^\circ$  (iv)  $19.56^\circ$  (v)  $22.56^\circ$

41. In the given figure , if  $DA \perp BC$  and  $\angle ABD = 39.58^\circ$ , find  $\angle DCA$



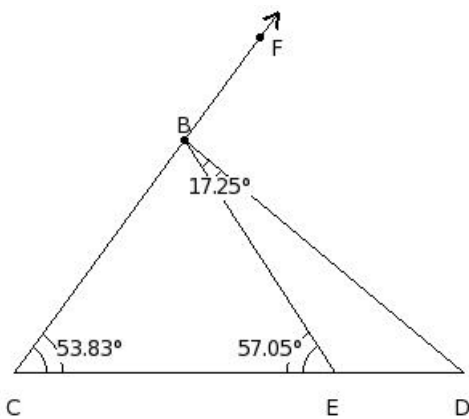
- (i)  $55.03^\circ$  (ii)  $52.03^\circ$  (iii)  $53.03^\circ$  (iv)  $56.03^\circ$  (v)  $54.03^\circ$

42. In below given figure, find  $\angle FIH$



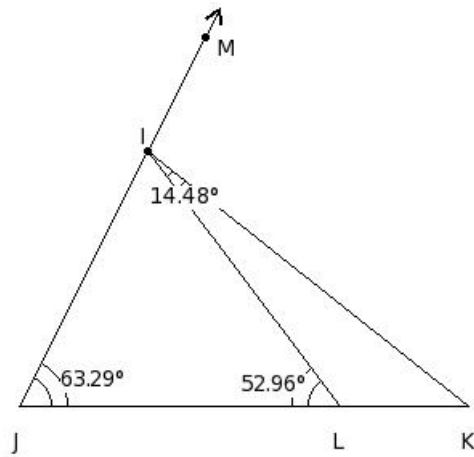
- (i)  $122.30^\circ$  (ii)  $125.30^\circ$  (iii)  $124.30^\circ$  (iv)  $123.30^\circ$  (v)  $126.30^\circ$

43. In below given figure, find  $\angle EBC$



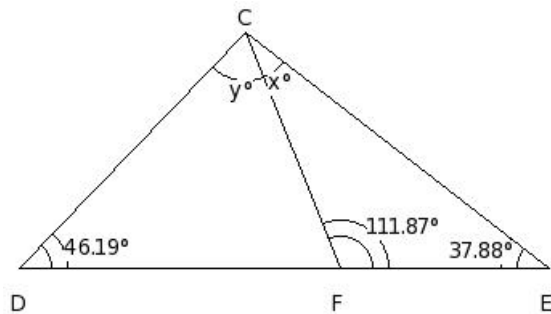
- (i)  $69.12^\circ$  (ii)  $70.12^\circ$  (iii)  $68.12^\circ$  (iv)  $67.12^\circ$  (v)  $71.12^\circ$

44. In below given figure, find  $\angle KIM$



- (i)  $99.77^\circ$  (ii)  $103.77^\circ$  (iii)  $101.77^\circ$  (iv)  $100.77^\circ$  (v)  $102.77^\circ$

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

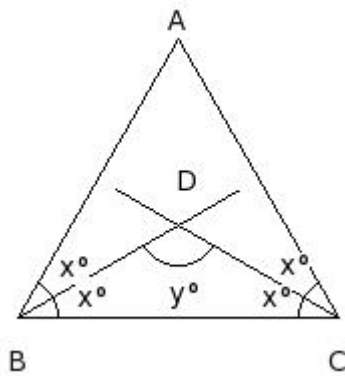


- (i)  $x = 31.25^\circ, y = 66.68^\circ$   
 (ii)  $x = 30.25^\circ, y = 65.68^\circ$   
 (iii)  $x = 29.25^\circ, y = 64.68^\circ$   
 (iv)  $x = 28.25^\circ, y = 63.68^\circ$   
 (v)  $x = 32.25^\circ, y = 67.68^\circ$

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

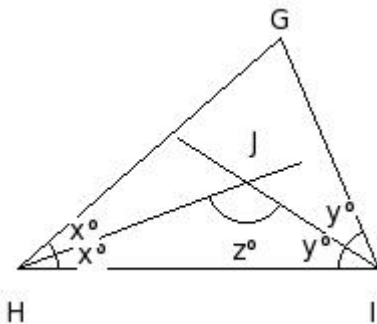
- (i)  $X = 47^\circ, Y = 90^\circ, Z = 43^\circ$   
 (ii)  $X = 45^\circ, Y = 88^\circ, Z = 47^\circ$   
 (iii)  $X = 43^\circ, Y = 92^\circ, Z = 45^\circ$   
 (iv)  $X = 45^\circ, Y = 90^\circ, Z = 45^\circ$   
 (v)  $X = 43^\circ, Y = 90^\circ, Z = 47^\circ$

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



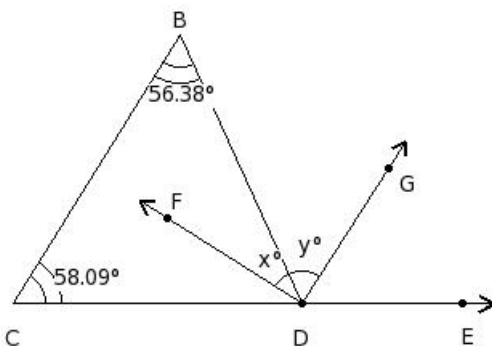
- (i)  $119^\circ$  (ii)  $121^\circ$  (iii)  $122^\circ$  (iv)  $120^\circ$  (v)  $118^\circ$

48. In the given figure,  $\triangle GHI$  is a triangle in which  $\angle H = 41.28^\circ$  and  $\angle I = 66.92^\circ$ . If 'z' is the angle between the bisector of  $\angle H$  and  $\angle I$ , then find z.



- (i)  $123.90^\circ$  (ii)  $126.90^\circ$  (iii)  $124.90^\circ$  (iv)  $127.90^\circ$  (v)  $125.90^\circ$

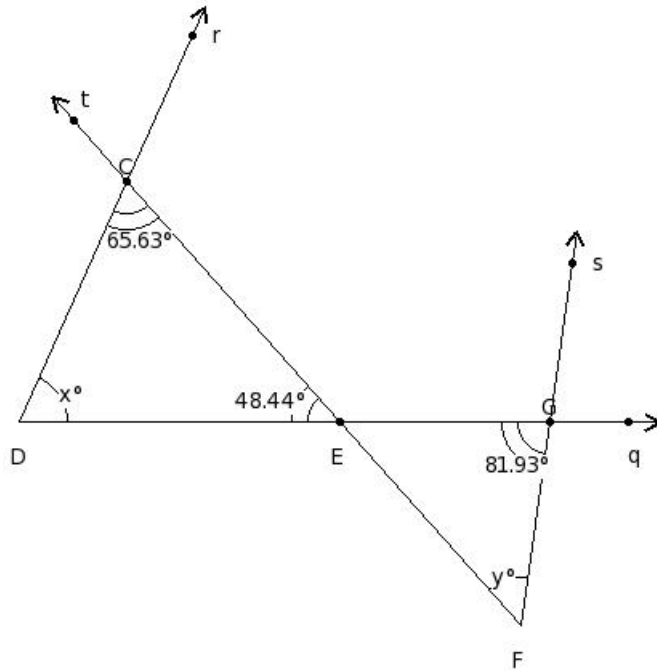
- In the given figure,  $\angle B = 56.38^\circ$  and  $\angle C = 58.09^\circ$ .  
 49. Side CD is produced to E, so that  $\angle CDB$  and  $\angle BDE$  form a linear pair.  
 If  $\overrightarrow{DF}$  and  $\overrightarrow{DG}$  are the bisectors of  $\angle CDB$  and  $\angle BDE$ , find x and y.



- (i)  $x = 34.77^\circ, y = 59.23^\circ$   
 (ii)  $x = 32.77^\circ, y = 57.23^\circ$   
 (iii)  $x = 33.77^\circ, y = 58.23^\circ$   
 (iv)  $x = 31.77^\circ, y = 56.23^\circ$

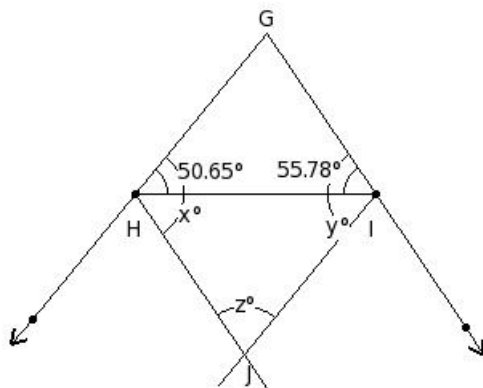
(v)  $x = 30.77^\circ, y = 55.23^\circ$

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



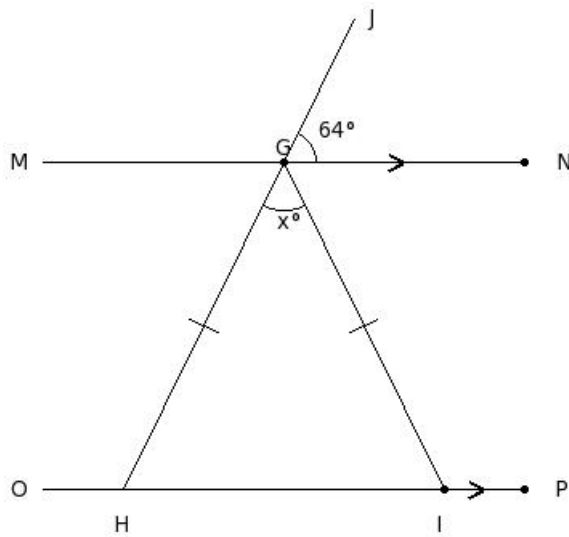
- (i)  $x = 64.93^\circ, y = 48.63^\circ$
- (ii)  $x = 66.93^\circ, y = 50.63^\circ$
- (iii)  $x = 63.93^\circ, y = 47.63^\circ$
- (iv)  $x = 67.93^\circ, y = 51.63^\circ$
- (v)  $x = 65.93^\circ, y = 49.63^\circ$

51. In the given figure,  $\triangle GHI$  in which  $\angle H = 50.65^\circ$  and  $\angle I = 55.78^\circ$ .  $GJ$  and  $HI$  bisect each other. Find the value of  $z$



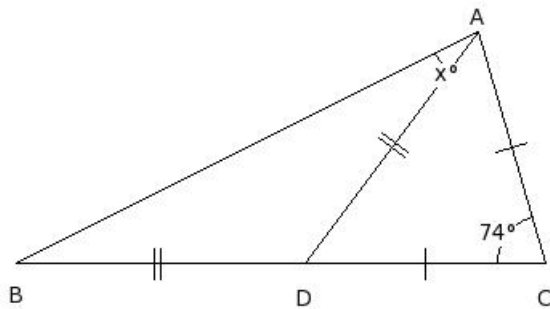
- (i)  $z = 72.57^\circ$  (ii)  $z = 71.57^\circ$  (iii)  $z = 75.57^\circ$
- (iv)  $z = 74.57^\circ$  (v)  $z = 73.57^\circ$

52. In the given figure,  $MN \parallel OP$ ,  $\angle JGN = 64^\circ$  and  $GH = IG$ . Find the measure of  $x$ .



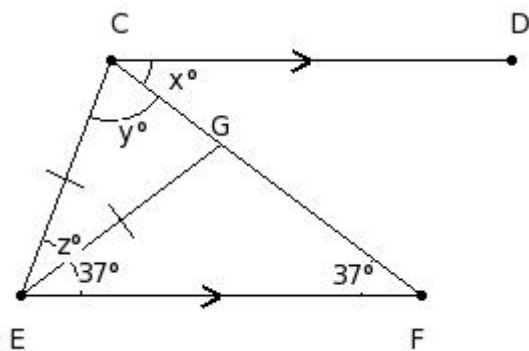
- (i)  $x = 50^\circ$  (ii)  $x = 54^\circ$  (iii)  $x = 52^\circ$   
 (iv)  $x = 51^\circ$  (v)  $x = 53^\circ$

53. In the given figure, find the value of  $x$ .



- (i)  $x = 27.5^\circ$  (ii)  $x = 24.5^\circ$  (iii)  $x = 25.5^\circ$   
 (iv)  $x = 28.5^\circ$  (v)  $x = 26.5^\circ$

54. In the given figure,  $CD \parallel EF$  and  $CE = EG$ . Find the values of  $x, y$  and  $z$ .

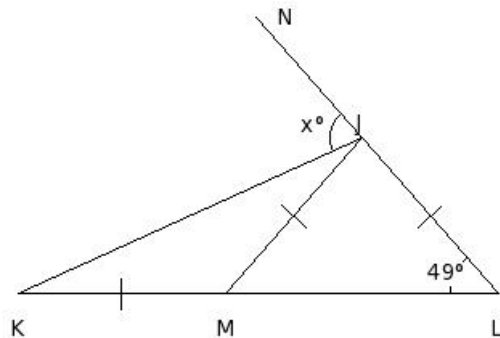


- (i)  $x = 37^\circ, y = 74^\circ, z = 32^\circ$   
 (ii)  $x = 39^\circ, y = 74^\circ, z = 30^\circ$   
 (iii)  $x = 37^\circ, y = 72^\circ, z = 34^\circ$

(iv)  $x = 35^\circ$ ,  $y = 74^\circ$ ,  $z = 34^\circ$

(v)  $x = 35^\circ$ ,  $y = 76^\circ$ ,  $z = 32^\circ$

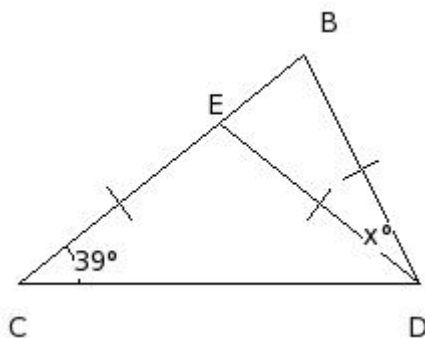
55. In the given figure, if  $LJ = JM = KM$ . Find the value of  $x$ .



(i)  $x = 74.5^\circ$  (ii)  $x = 71.5^\circ$  (iii)  $x = 73.5^\circ$

(iv)  $x = 75.5^\circ$  (v)  $x = 72.5^\circ$

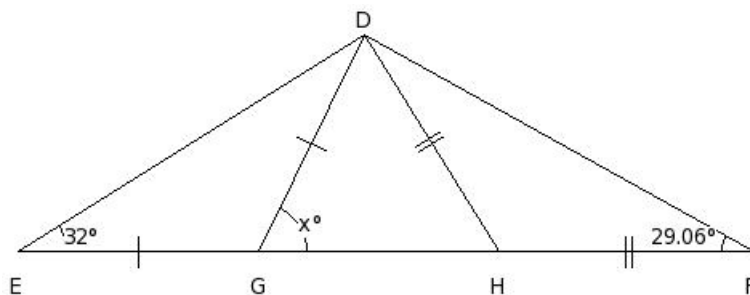
56. In the given figure, if  $DB = DE = EC$ , find the value of  $x$



(i)  $x = 23^\circ$  (ii)  $x = 22^\circ$  (iii)  $x = 24^\circ$

(iv)  $x = 26^\circ$  (v)  $x = 25^\circ$

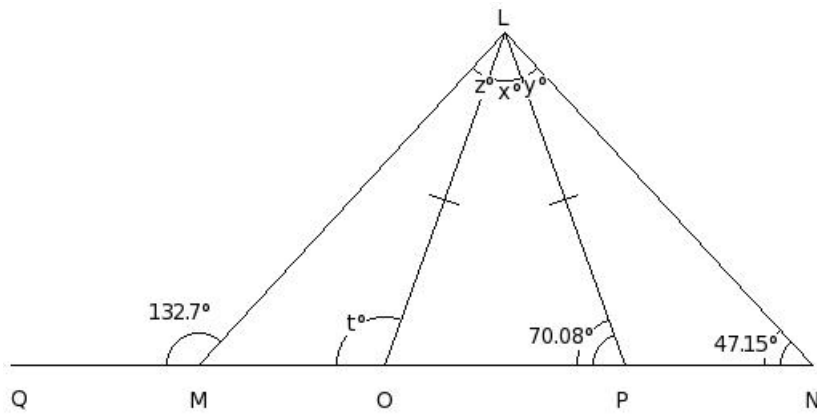
57. In the given figure, if  $GD = EG$  and  $DH = HF$ , find the value of  $x$ .



(i)  $x = 62^\circ$  (ii)  $x = 65^\circ$  (iii)  $x = 66^\circ$

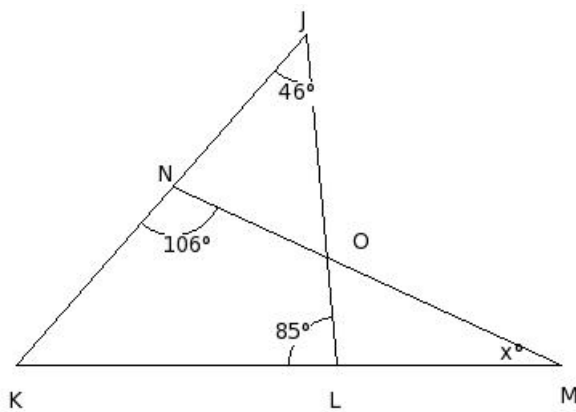
(iv)  $x = 63^\circ$  (v)  $x = 64^\circ$

58. In the given figure, if  $LO = PL$ , find the values of  $x$ ,  $y$ ,  $z$  and  $t$



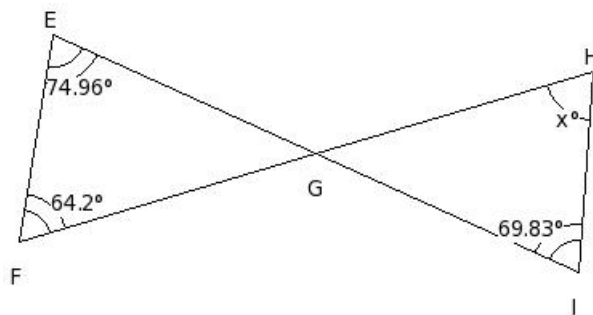
- (i)  $x = 39.84^\circ$ ,  $y = 24.93^\circ$ ,  $z = 24.78^\circ$ ,  $t = 109.92^\circ$   
 (ii)  $x = 39.84^\circ$ ,  $y = 22.93^\circ$ ,  $z = 22.78^\circ$ ,  $t = 109.92^\circ$   
 (iii)  $x = 39.84^\circ$ ,  $y = 22.93^\circ$ ,  $z = 21.78^\circ$ ,  $t = 108.92^\circ$   
 (iv)  $x = 39.84^\circ$ ,  $y = 22.93^\circ$ ,  $z = 23.78^\circ$ ,  $t = 110.92^\circ$   
 (v)  $x = 39.84^\circ$ ,  $y = 20.93^\circ$ ,  $z = 20.78^\circ$ ,  $t = 109.92^\circ$

59. In the given figure, calculate the value of  $x$ .



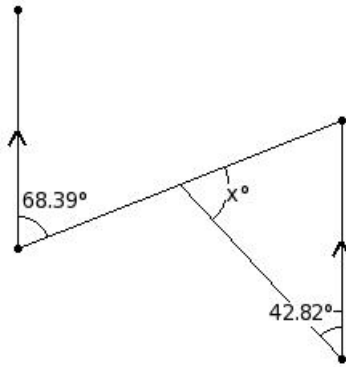
- (i)  $x = 26^\circ$  (ii)  $x = 24^\circ$  (iii)  $x = 23^\circ$   
 (iv)  $x = 27^\circ$  (v)  $x = 25^\circ$

60. In the given figure, calculate the value of  $x$ .



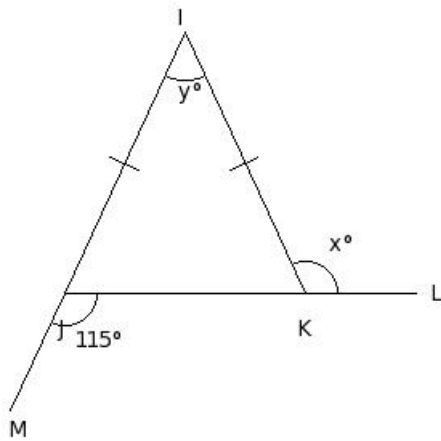
- (i)  $x = 69.33^\circ$  (ii)  $x = 71.33^\circ$  (iii)  $x = 70.33^\circ$   
 (iv)  $x = 68.33^\circ$  (v)  $x = 67.33^\circ$

61. In the given figure, calculate the value of  $x$ .



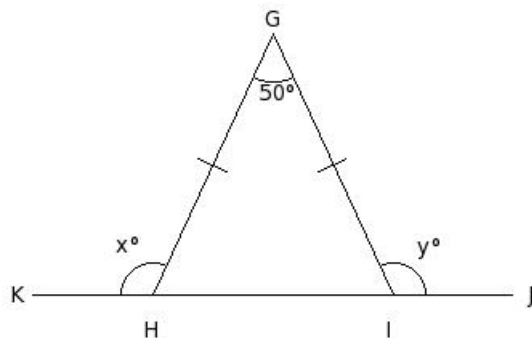
- (i)  $x = 67.79^\circ$  (ii)  $x = 66.79^\circ$  (iii)  $x = 69.79^\circ$   
 (iv)  $x = 70.79^\circ$  (v)  $x = 68.79^\circ$

62. Find the unknown marked angles in the following figure



- (i)  $x = 115^\circ, y = 50^\circ$  (ii)  $x = 116^\circ, y = 51^\circ$  (iii)  $x = 113^\circ, y = 48^\circ$   
 (iv)  $x = 114^\circ, y = 49^\circ$  (v)  $x = 117^\circ, y = 52^\circ$

63. Find the unknown marked angles in the following figure

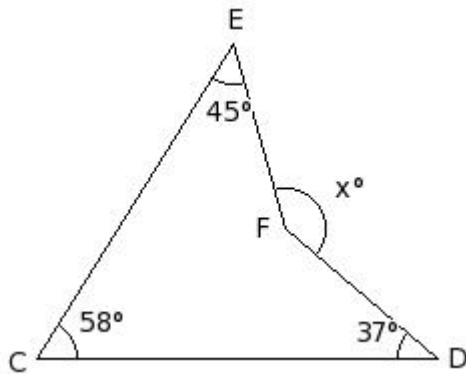


- (i)  $x = 117^\circ, y = 117^\circ$   
 (ii)  $x = 115^\circ, y = 115^\circ$   
 (iii)  $x = 114^\circ, y = 114^\circ$

(iv)  $x = 116^\circ, y = 116^\circ$

(v)  $x = 113^\circ, y = 113^\circ$

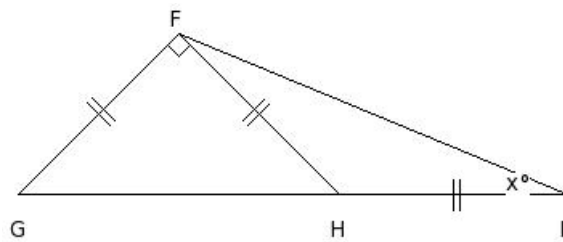
64. In the given figure, calculate the value of  $x$ .



(i)  $x = 138^\circ$  (ii)  $x = 141^\circ$  (iii)  $x = 139^\circ$

(iv)  $x = 140^\circ$  (v)  $x = 142^\circ$

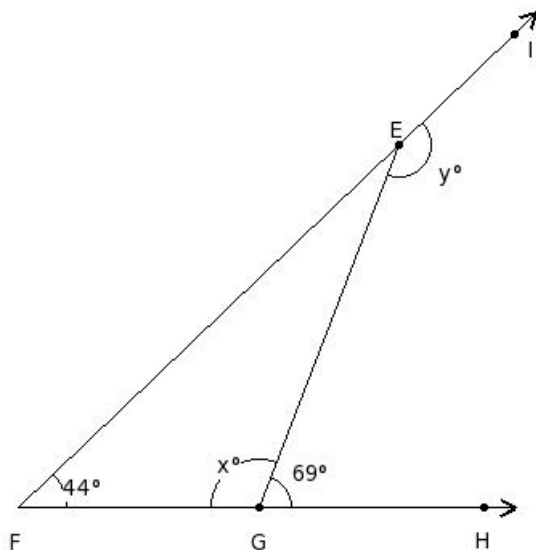
65. In the given figure, calculate the value of  $x$ .



(i)  $x = 23.5^\circ$  (ii)  $x = 20.5^\circ$  (iii)  $x = 21.5^\circ$

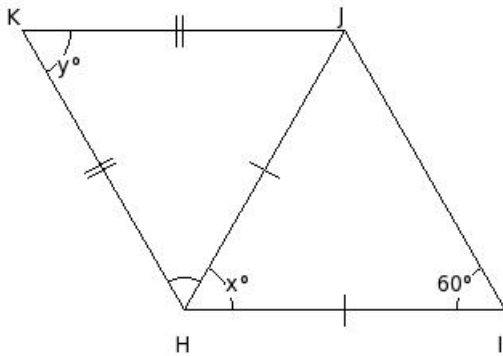
(iv)  $x = 22.5^\circ$  (v)  $x = 24.5^\circ$

66. Find the unknown marked angles in the following figure



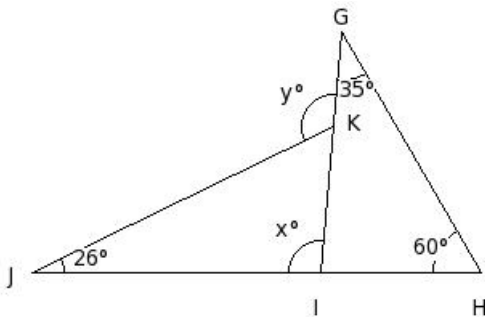
- (i)  $x = 113^\circ, y = 157^\circ$
- (ii)  $x = 109^\circ, y = 153^\circ$
- (iii)  $x = 112^\circ, y = 156^\circ$
- (iv)  $x = 111^\circ, y = 155^\circ$
- (v)  $x = 110^\circ, y = 154^\circ$

67. In the following figure  $HI \parallel KJ$ , find the values of  $x$  and  $y$ .



- (i)  $x = 62^\circ, y = 62^\circ$
- (ii)  $x = 58^\circ, y = 58^\circ$
- (iii)  $x = 60^\circ, y = 60^\circ$
- (iv)  $x = 61^\circ, y = 61^\circ$
- (v)  $x = 59^\circ, y = 59^\circ$

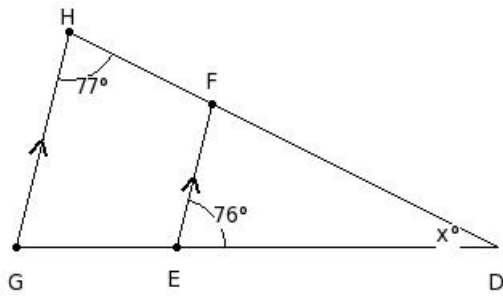
68. Find the unknown marked angles in the following figure



- (i)  $x = 94^\circ, y = 120^\circ$
- (ii)  $x = 96^\circ, y = 122^\circ$
- (iii)  $x = 97^\circ, y = 123^\circ$
- (iv)  $x = 95^\circ, y = 121^\circ$
- (v)  $x = 93^\circ, y = 119^\circ$

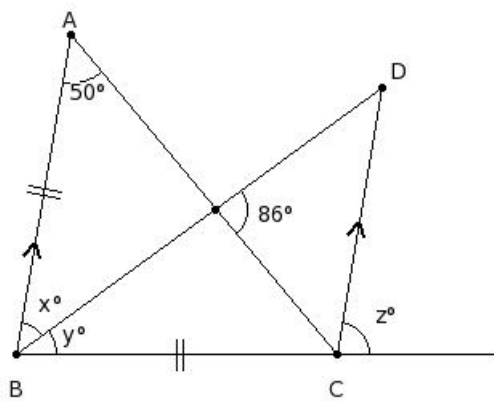
69. In the given figure, it is given that  $FE \parallel HG$ ,  $\angle FHG = 77^\circ$  and  $\angle FED = 76^\circ$ . Find the value of

x.



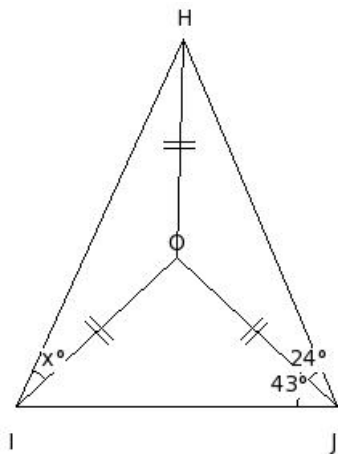
- (i)  $x = 29^\circ$  (ii)  $x = 27^\circ$  (iii)  $x = 26^\circ$   
 (iv)  $x = 28^\circ$  (v)  $x = 25^\circ$

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



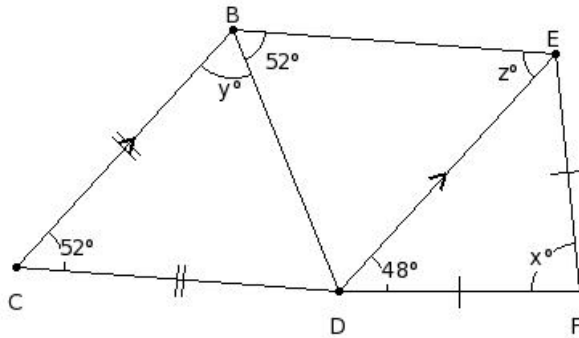
- (i)  $x = 42^\circ, y = 38^\circ, z = 80^\circ$   
 (ii)  $x = 42^\circ, y = 36^\circ, z = 82^\circ$   
 (iii)  $x = 46^\circ, y = 36^\circ, z = 78^\circ$   
 (iv)  $x = 44^\circ, y = 36^\circ, z = 80^\circ$   
 (v)  $x = 44^\circ, y = 34^\circ, z = 82^\circ$

71. Find the value of  $x$  in the given figure.



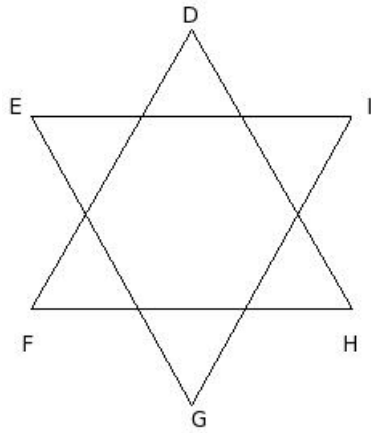
- (i)  $x = 20^\circ$  (ii)  $x = 24^\circ$  (iii)  $x = 22^\circ$   
 (iv)  $x = 23^\circ$  (v)  $x = 21^\circ$

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



- (i)  $x = 84^\circ, y = 62^\circ, z = 54^\circ$   
 (ii)  $x = 82^\circ, y = 66^\circ, z = 52^\circ$   
 (iii)  $x = 86^\circ, y = 64^\circ, z = 50^\circ$   
 (iv)  $x = 82^\circ, y = 64^\circ, z = 54^\circ$   
 (v)  $x = 84^\circ, y = 64^\circ, z = 52^\circ$

73. In the given two equilateral triangles, find  $\angle D + \angle F + \angle H + \angle E + \angle G + \angle I$ .



- (i)  $361^\circ$  (ii)  $358^\circ$  (iii)  $359^\circ$  (iv)  $362^\circ$  (v)  $360^\circ$

## Assignment Key

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- 1) (i)
- 2) (v)
- 3) (ii)
- 4) (v)
- 5) (ii)
- 6) (iv)
- 7) (ii)
- 8) (i)
- 9) (v)
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- 12) (iii)
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