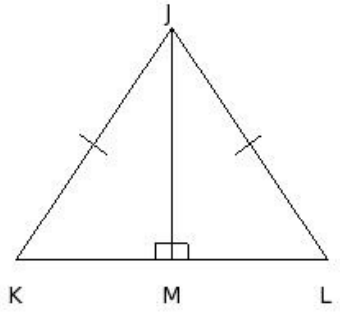
EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Triangles

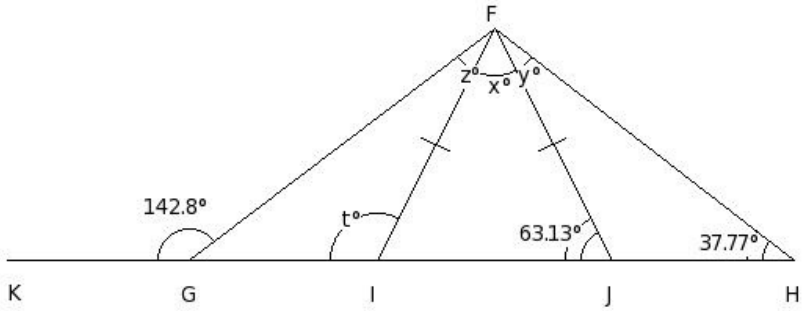
Grade : ICSE Grade IX

1. With the data in the given figure, △JKM ≅ △JLM by which property?



(i) SAS Congruency (ii) not congruent (iii) SSS Congruency (iv) RHS Congruency (v) ASA Congruency

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

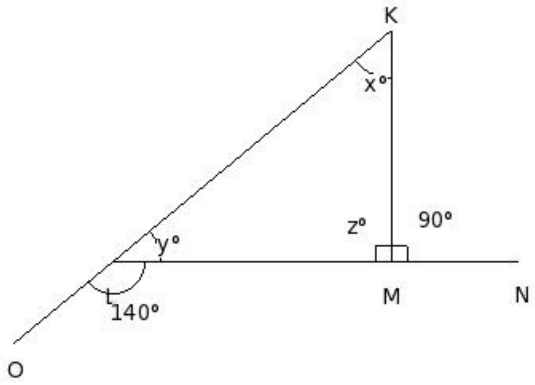


(i) x =53.74°, y =25.36°, z =25.93° , t =116.87° (ii) x =53.74°, y =25.36°, z =24.93° , t =115.87°

(iii) x =53.74°, y =25.36°, z =26.93° , t =117.87° (iv) x =53.74°, y =27.36°, z =27.93° , t =116.87°

(v) x =53.74°, y =23.36°, z =23.93° , t =116.87°

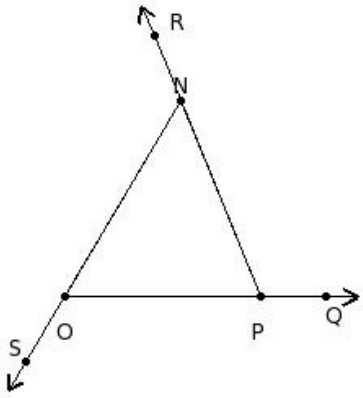
3. In the following figure, two sides of a triangle have been produced. Find all the angles of the triangle.



(i) x=50°,y=40°,z=90° (ii) x=52°,y=40°,z=88° (iii) x=48°,y=42°,z=90° (iv) x=50°,y=38°,z=92°

(v) x=48°,y=40°,z=92°

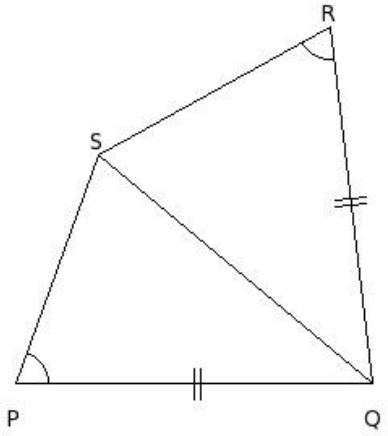
4. The exterior angles of the triangle are



(i) ∠QRO , ∠ROP , ∠SPR (ii) ∠SRP , ∠TPQ , ∠UQR (iii) ∠PQN , ∠QNO , ∠ROQ (iv) ∠RQO , ∠SOP , ∠TPQ

(v) ∠QPN , ∠RNO , ∠SOP

5. With the data in the given figure, △PQS ≅ △RQS by which property?



(i) ASA Congruency (ii) not congruent (iii) SSS Congruency (iv) SAS Congruency (v) RHS Congruency

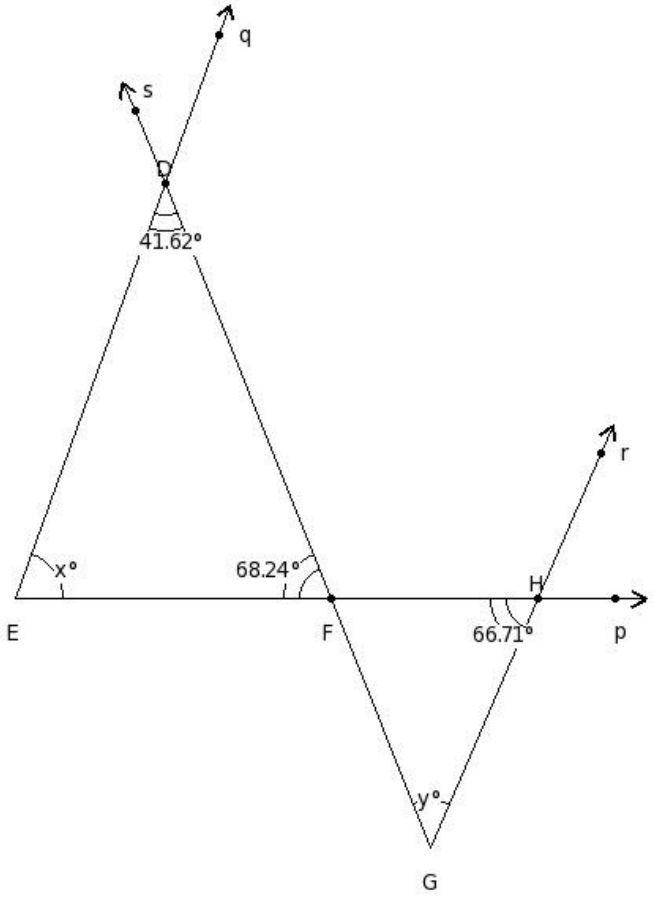
6. Which of the following are measures of an equilateral triangle ?

(i) ∠M = 45° , ∠N = 90° , ∠O = 45° (ii) ∠M = 71.38° , ∠N = 54.31° , ∠O = 54.31°

(iii) ∠M = 60° , ∠N = 60° , ∠O = 60° (iv) ∠M = 49.09° , ∠N = 90° , ∠O = 40.91°

(v) ∠M = 41.08° , ∠N = 80.25° , ∠O = 58.67°

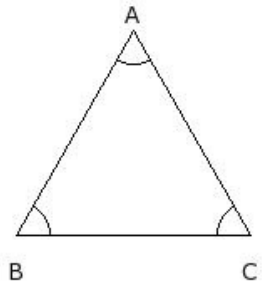
7. In the given figure, find the values of x and y



(i) x=69.14°,y=44.05° (ii) x=70.14°,y=45.05° (iii) x=68.14°,y=43.05° (iv) x=71.14°,y=46.05°

(v) x=72.14°,y=47.05°

8. Which of the following are measures of an equilateral triangle ?

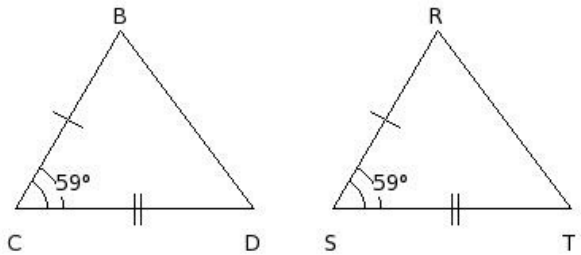


(i) ∠A = 55.3° , ∠B = 76.33° , ∠C = 48.37° (ii) ∠A = 88.86° , ∠B = 45.57° , ∠C = 45.57°

(iii) ∠A = 60° , ∠B = 60° , ∠C = 60° (iv) ∠A = 33.69° , ∠B = 90° , ∠C = 56.31°

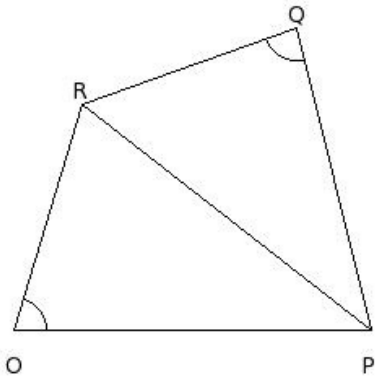
(v) ∠A = 45° , ∠B = 90° , ∠C = 45°

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



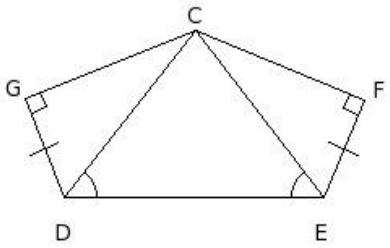
(i) ASA Congruency (ii) RHS Congruency (iii) SSS Congruency (iv) SAS Congruency

10. With the data in the given figure, △OPR ≅ △QRP by which property?



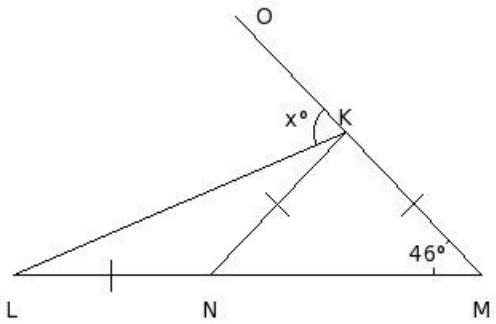
(i) SSS Congruency (ii) SAS Congruency (iii) ASA Congruency (iv) not congruent (v) RHS Congruency

11. With the data in the given figure, △CDG ≅ △CEF by which property?



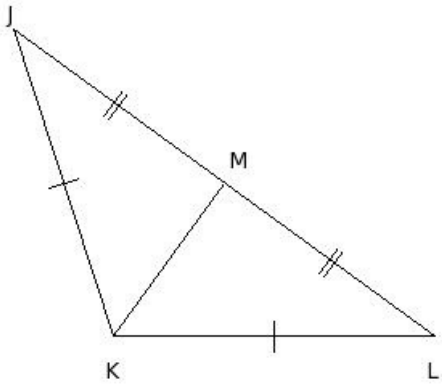
(i) SSS Congruency (ii) not congruent (iii) SAS Congruency (iv) RHS Congruency (v) ASA Congruency

12. In the given figure, if MK = KN = LN. Find the value of x.



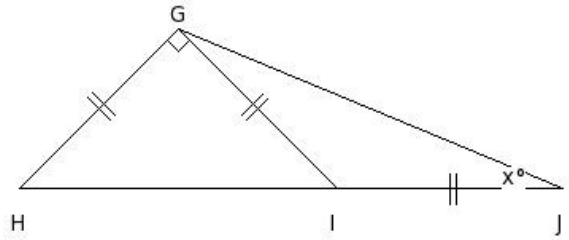
(i) x=67° (ii) x=70° (iii) x=68° (iv) x=69° (v) x=71°

13. In the given figure, △JKL is an obtuse angled triangle. △JKM ≅ △LKM by which property?



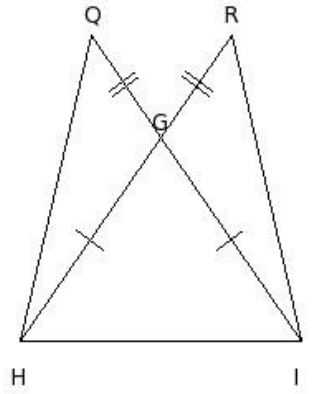
(i) SSS Congruency (ii) SAS Congruency (iii) not congruent (iv) RHS Congruency (v) ASA Congruency

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



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

15. With the data in the given figure, △QHI ≅ △RIH by which property?

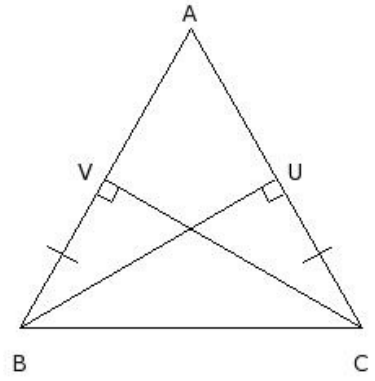


(i) SSS Congruency (ii) ASA Congruency (iii) SAS Congruency (iv) RHS Congruency (v) not congruent

16. Sum of the interior angles in a triangle is

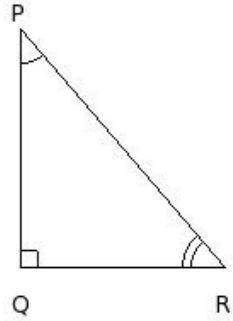
(i) 195° (ii) 185° (iii) 210° (iv) 180° (v) 190°

17. With the given data in the figure, △VBC ≅ △UCB by which property?



(i) ASA Congruency (ii) SAS Congruency (iii) not congruent (iv) RHS Congruency (v) SSS Congruency

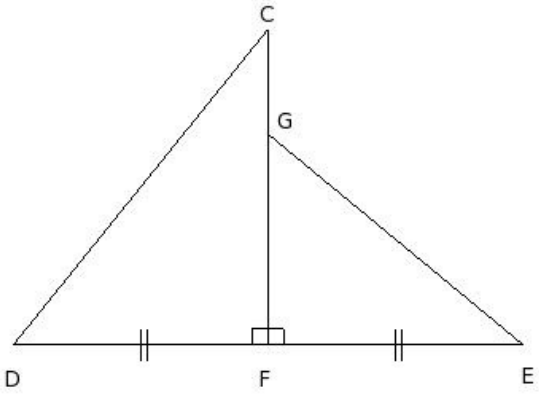
18. Which of the following are measures of a right angled triangle ?



(i) ∠P = 134.18° , ∠Q = 19.19° , ∠R = 26.63° (ii) ∠P = 40.6° , ∠Q = 90° , ∠R = 49.4°

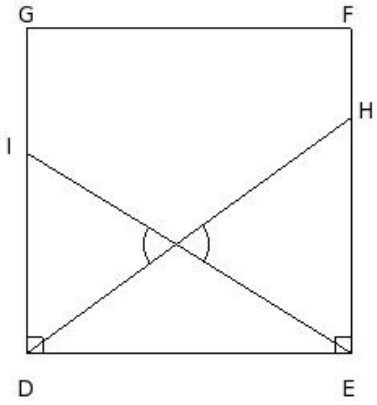
(iii) ∠P = 76.87° , ∠Q = 45.57° , ∠R = 57.56° (iv) ∠P = 60° , ∠Q = 60° , ∠R = 60°

19. With the data in the figure, △CDF ≅ △GEF by which property?



(i) ASA Congruency (ii) RHS Congruency (iii) not congruent (iv) SAS Congruency (v) SSS Congruency

20. With the data in the figure, △DEH ≅ △EDI by which property?

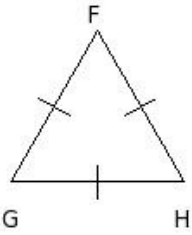


(i) RHS Congruency (ii) SAS Congruency (iii) ASA Congruency (iv) SSS Congruency (v) not congruent

21. In △CDE, if ∠C = 55° and ∠D = 66°, find the measure of ∠E

(i) E=60° (ii) E=57° (iii) E=61° (iv) E=59° (v) E=58°

22. Which of the following are measures of an equilateral triangle ?



(i) FG = 10 cm , GH = 10 cm , HF = 10 cm (ii) FG = 12 cm , GH = 15 cm , HF = 11 cm

(iii) FG = 13 cm , GH = 14 cm , HF = 19.1 cm (iv) FG = 11 cm , GH = 11 cm , HF = 15.56 cm

(v) FG = 13 cm , GH = 14 cm , HF = 13 cm

23. Which of the following are measures of a right angled triangle ?

(i) IJ = 10 cm , JK = 21 cm , KI = 13 cm (ii) IJ = 15 cm , JK = 12 cm , KI = 13 cm

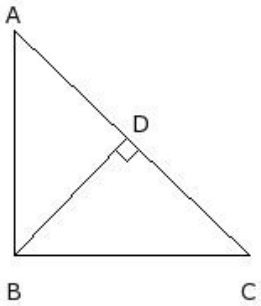
(iii) IJ = 13 cm , JK = 12 cm , KI = 15 cm (iv) IJ = 12 cm , JK = 14 cm , KI = 18.44 cm

(v) IJ = 10 cm , JK = 10 cm , KI = 10 cm

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

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

25. With the data in the figure, $\triangle ABD \cong \triangle CBD$ by which property?



(i) SSS Congruency (ii) not congruent (iii) SAS Congruency (iv) RHS Congruency (v) ASA Congruency

Assignment Key

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