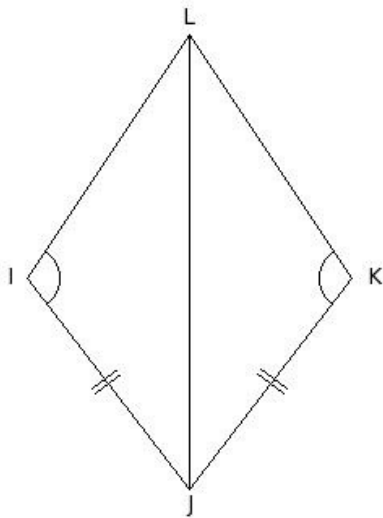




1. Which of the following are measures of an isosceles triangle ?

- (i) $\angle D = 70.46^\circ$, $\angle E = 54.77^\circ$, $\angle F = 54.77^\circ$ (ii) $\angle D = 47.91^\circ$, $\angle E = 61.28^\circ$, $\angle F = 70.81^\circ$
- (iii) $\angle D = 49.09^\circ$, $\angle E = 90^\circ$, $\angle F = 40.91^\circ$ (iv) $\angle D = 75.31^\circ$, $\angle E = 64.53^\circ$, $\angle F = 40.16^\circ$
- (v) $\angle D = 60^\circ$, $\angle E = 60^\circ$, $\angle F = 60^\circ$

2. With the data in the figure, $\triangle ILJ \cong \triangle KLJ$ by which property?



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

3. Which of the following may lie outside or on the triangle?

- a) circumcentre
- b) centroid
- c) orthocentre
- d) excentre
- e) incentre

- (i) {a,c,d} (ii) {b,a} (iii) {b,e,d} (iv) {b,a,c} (v) {e,c}

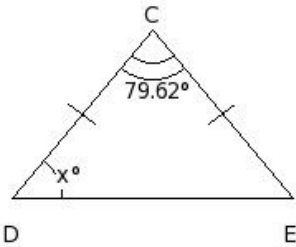
4. In an equilateral triangle ABC, the side BC is trisected at D. Then

- (i) $3 AD^2 = 7 AB^2$ (ii) $9 AD^2 = 7 AB^2$ (iii) $7 AD^2 = 3 AB^2$ (iv) $7 AD^2 = 9 AB^2$

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

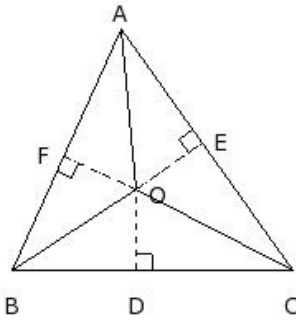
- (i) 59° (ii) 61° (iii) 62° (iv) 58° (v) 60°

6. Find the unknown angle in the following figure



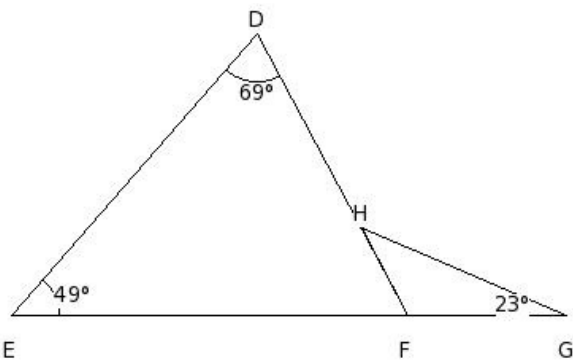
- (i) $x=49.19^\circ$ (ii) $x=50.19^\circ$ (iii) $x=52.19^\circ$ (iv) $x=51.19^\circ$ (v) $x=48.19^\circ$

7. In the given figure, in $\triangle ABC$, 'O' is a point inside the triangle. $OD \perp BC$, $OE \perp AC$ and $OF \perp AB$. Then



- (i) $AF^2 + BD^2 + CE^2 = OA^2 + OB^2 + OC^2 - OD^2 - OE^2 - OF^2$
 (ii) $AF^2 + BD^2 + CE^2 = OA^2 + OB^2 + OC^2 + OD^2 + OE^2 + OF^2$
 (iii) $AF^2 + BD^2 + CE^2 = AB^2 + DC^2 + CA^2 - BF^2 - CD^2 - EA^2$ (iv) $AF^2 + BD^2 + CE^2 = OF^2 + OE^2 + OD^2$

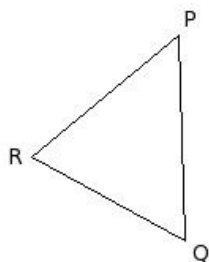
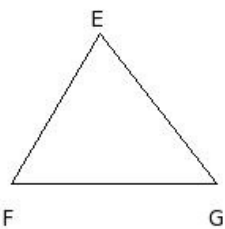
8. In the given figure, find $\angle HFG$



- (i) 116° (ii) 119° (iii) 117° (iv) 120° (v) 118°

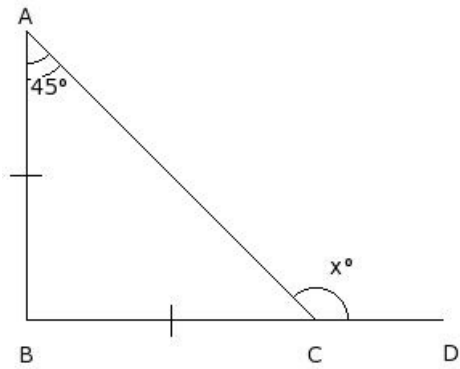
9. In the given figure, $\triangle EFG \cong \triangle RQP$. Which of the following are true?

- a) $\angle G = \angle P$
 b) $\angle F = \angle Q$
 c) $FG = QP$
 d) $\angle E = \angle P$
 e) $FG = RQ$



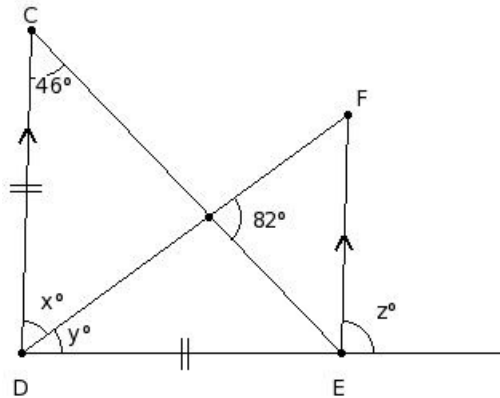
- (i) {d,e,c} (ii) {a,b,c} (iii) {d,a} (iv) {e,b} (v) {d,a,b}

10. Find the unknown angle in the following figure



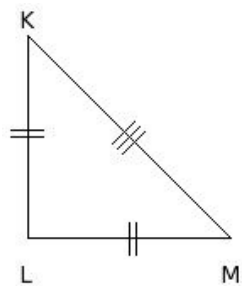
- (i) $x=134^\circ$ (ii) $x=135^\circ$ (iii) $x=133^\circ$ (iv) $x=137^\circ$ (v) $x=136^\circ$

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



- (i) $x=50^\circ, y=38^\circ, z=88^\circ$ (ii) $x=54^\circ, y=36^\circ, z=86^\circ$ (iii) $x=50^\circ, y=36^\circ, z=90^\circ$ (iv) $x=52^\circ, y=36^\circ, z=88^\circ$
 (v) $x=52^\circ, y=34^\circ, z=90^\circ$

12. Which of the following are measures of an isosceles right angled triangle ?

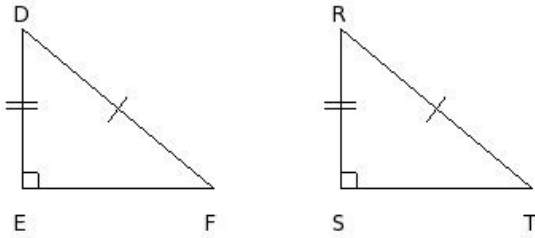


- (i) $KL = 12 \text{ cm}, LM = 13 \text{ cm}, MK = 15 \text{ cm}$ (ii) $KL = 12 \text{ cm}, LM = 12 \text{ cm}, MK = 16.97 \text{ cm}$
 (iii) $KL = 15 \text{ cm}, LM = 11 \text{ cm}, MK = 15 \text{ cm}$ (iv) $KL = 15 \text{ cm}, LM = 27 \text{ cm}, MK = 15 \text{ cm}$
 (v) $KL = 15 \text{ cm}, LM = 15 \text{ cm}, MK = 15 \text{ cm}$

13. Which of the following are measures of an isosceles triangle ?

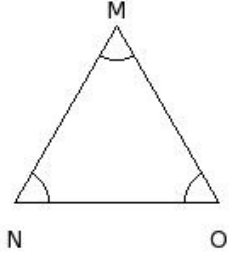
- (i) $IJ = 15 \text{ cm}, JK = 10 \text{ cm}, KI = 15 \text{ cm}$ (ii) $IJ = 14 \text{ cm}, JK = 11 \text{ cm}, KI = 12 \text{ cm}$
 (iii) $IJ = 10 \text{ cm}, JK = 11 \text{ cm}, KI = 14.87 \text{ cm}$ (iv) $IJ = 10 \text{ cm}, JK = 15 \text{ cm}, KI = 12 \text{ cm}$
 (v) $IJ = 10 \text{ cm}, JK = 10 \text{ cm}, KI = 10 \text{ cm}$

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



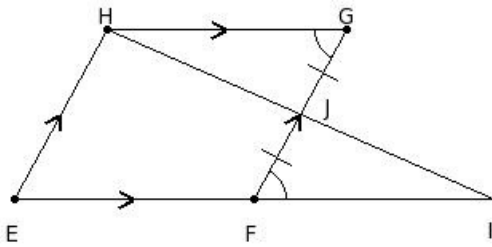
- (i) SAS Congruency (ii) SSS Congruency (iii) RHS Congruency (iv) ASA Congruency

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



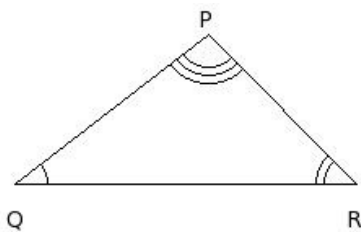
- (i) $\angle M = 71.38^\circ$, $\angle N = 54.31^\circ$, $\angle O = 54.31^\circ$ (ii) $\angle M = 57.56^\circ$, $\angle N = 76.87^\circ$, $\angle O = 45.57^\circ$
 (iii) $\angle M = 45^\circ$, $\angle N = 90^\circ$, $\angle O = 45^\circ$ (iv) $\angle M = 51.34^\circ$, $\angle N = 90^\circ$, $\angle O = 38.66^\circ$
 (v) $\angle M = 60^\circ$, $\angle N = 60^\circ$, $\angle O = 60^\circ$

16. With the given data in the figure, $\triangle HGJ \cong \triangle IFJ$ by which property?



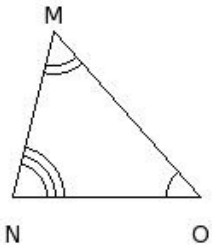
- (i) ASA Congruency (ii) SSS Congruency (iii) RHS Congruency (iv) SAS Congruency (v) not congruent

17. Which of the following are measures of an obtuse angled triangle ?



- (i) $\angle P = 45^\circ$, $\angle Q = 90^\circ$, $\angle R = 45^\circ$ (ii) $\angle P = 49.46^\circ$, $\angle Q = 49.46^\circ$, $\angle R = 81.08^\circ$
 (iii) $\angle P = 46.95^\circ$, $\angle Q = 61.26^\circ$, $\angle R = 71.79^\circ$ (iv) $\angle P = 42.71^\circ$, $\angle Q = 90^\circ$, $\angle R = 47.29^\circ$
 (v) $\angle P = 96.92^\circ$, $\angle Q = 37.92^\circ$, $\angle R = 45.16^\circ$

18. Which of the following are measures of a scalene triangle ?



- (i) $\angle M = 60^\circ$, $\angle N = 60^\circ$, $\angle O = 60^\circ$ (ii) $\angle M = 55.3^\circ$, $\angle N = 76.33^\circ$, $\angle O = 48.37^\circ$
 (iii) $\angle M = 71.38^\circ$, $\angle N = 54.31^\circ$, $\angle O = 54.31^\circ$ (iv) $\angle M = 47.16^\circ$, $\angle N = 66.42^\circ$, $\angle O = 66.42^\circ$
 (v) $\angle M = 45^\circ$, $\angle N = 90^\circ$, $\angle O = 45^\circ$

19. In the given figure, which pair of triangles are not congruent ?

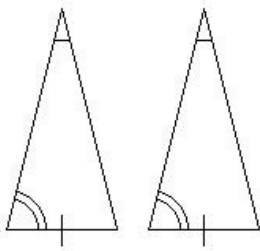


fig 3

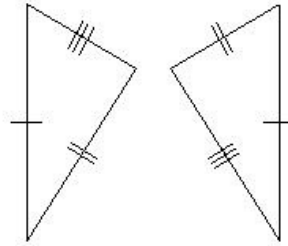


fig 4

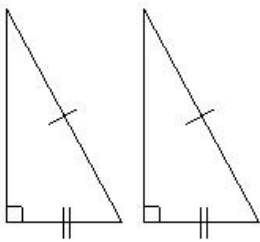


fig 1

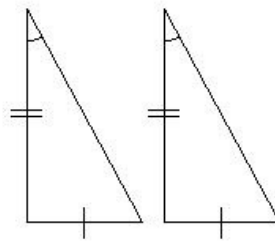
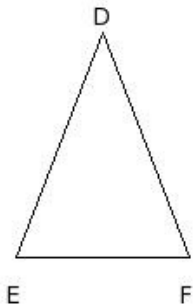


fig 2

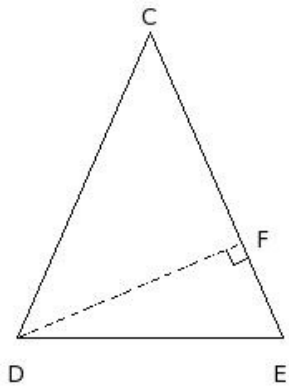
- (i) fig 1 (ii) fig 4 (iii) fig 2 (iv) fig 3

20. The side opposite to the vertex E



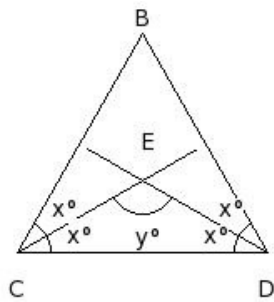
- (i) \overline{DE} (ii) \overline{FD} (iii) \overline{EF} (iv) \overline{GE} (v) \overline{DH}

21. In the given figure, $\triangle CDE$ is isosceles with $CD = CE$ and $DF \perp CE$. Then



- (i) $DF^2 + CF^2 = 2EF \cdot CF$ (ii) $DF^2 - EF^2 = 2EF \cdot CF$ (iii) $DF^2 - CF^2 = 2EF \cdot CF$ (iv) $DF^2 + EF^2 = 2EF \cdot CF$

22. 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) 119° (ii) 118° (iii) 122° (iv) 120° (v) 121°

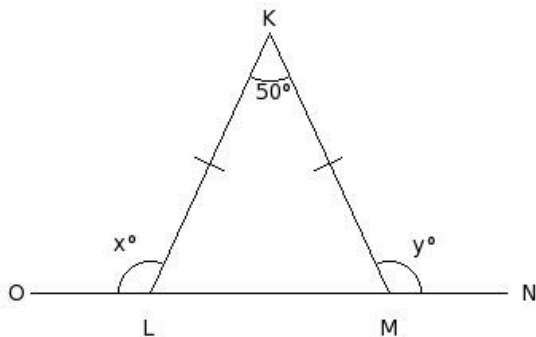
23. Each of the two equal angles of an isosceles triangle is half the third angle. Find the angles of the triangle

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

24. One of the two equal angles of an isosceles triangle measures 41° . Find the measure of each angle of the triangle.

- (i) $A=43^\circ, B=41^\circ, C=96^\circ$ (ii) $A=41^\circ, B=39^\circ, C=100^\circ$ (iii) $A=39^\circ, B=43^\circ, C=98^\circ$ (iv) $A=41^\circ, B=41^\circ, C=98^\circ$
 (v) $A=39^\circ, B=41^\circ, C=100^\circ$

25. Find the unknown marked angles in the following figure



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

Assignment Key

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