



MATHS

BOOKS - SRS PUBLICATION

TRIANGLES

Question Bank

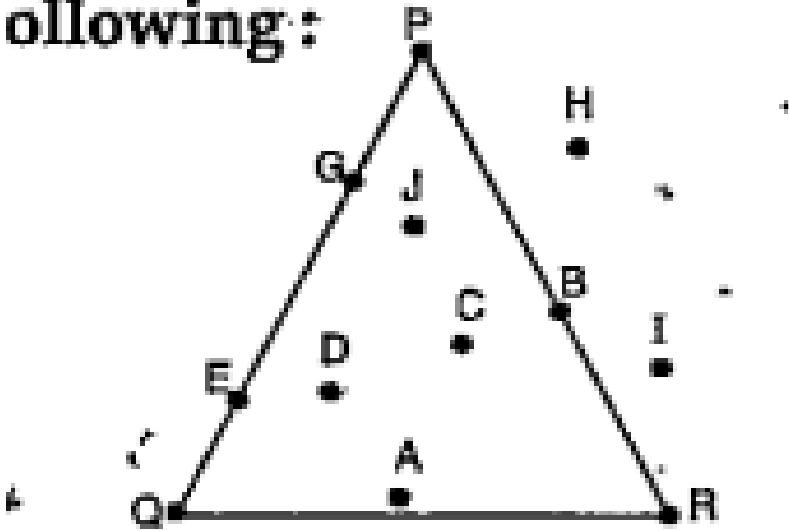
1. Mark any three collinear points A, B and C in your notebook, join them to make a triangle and name it.



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2. Observe the given triangle and answer the following:

following:

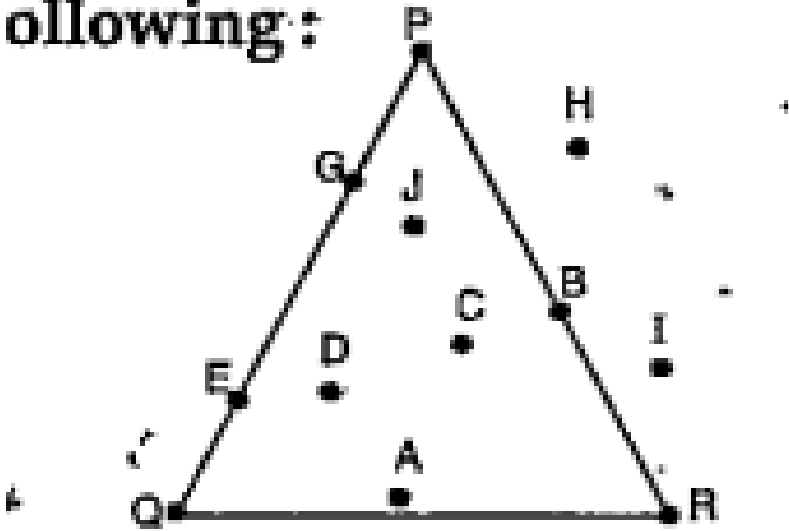


Write the interior points of the triangle.

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3. Observe the given triangle and answer the following:

following:



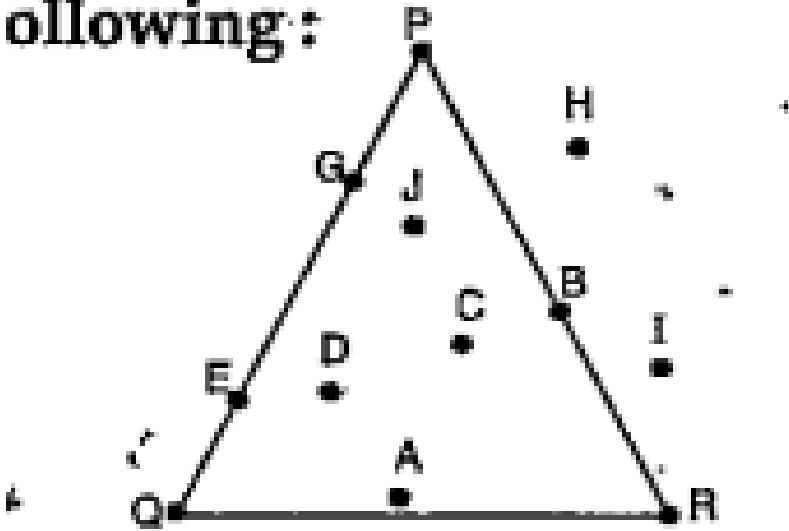
Write the points marked on the triangle.



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4. Observe the given triangle and answer the following:

following:



Write the exterior points of the triangle.



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5. Observe the given triangle and answer the following :

The opposite side to vertex L is



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6. Observe the given triangle and answer the following :

The opposite side to LK is



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7. Observe the given triangle and answer the following :

The opposite angle to KL is

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8. Observe the given triangle and answer the following :

The opposite vertex to LM is

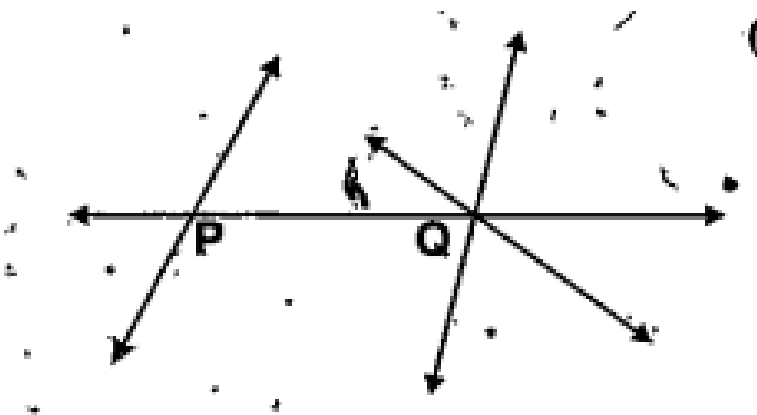
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9. Classify the following angles into acute, obtuse and right angles :

20° , 50° , 102° , 47° , 125° , 65° , 36° , 90° , 95° and 110°

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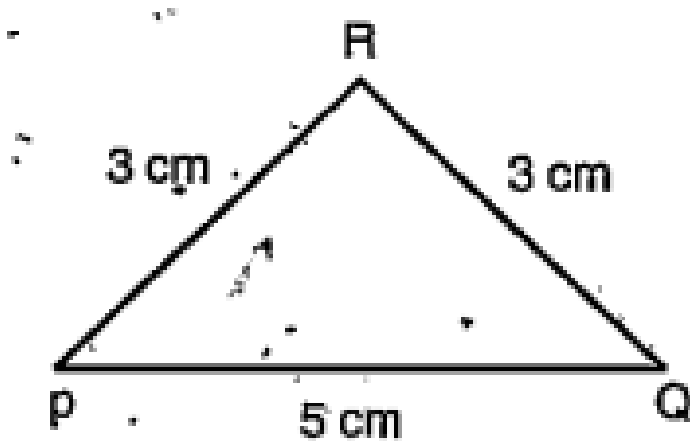
10. Write the intersecting point and concurrent point in the adjacent figure.





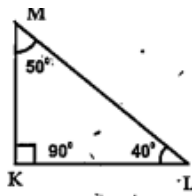
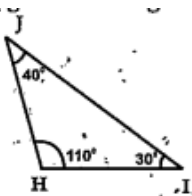
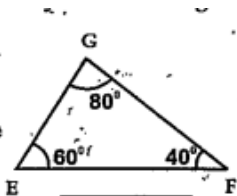
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11. Classify the following triangles according to the length of their sides :



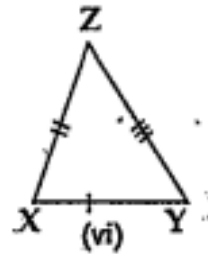
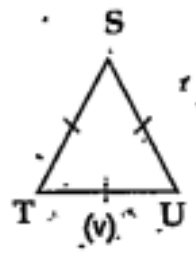
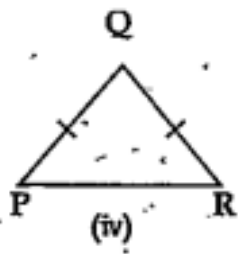
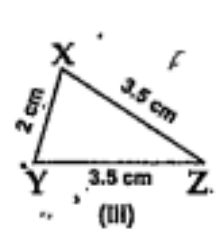
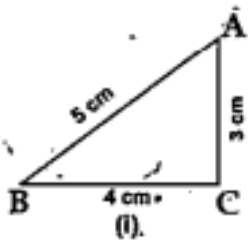
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12. Classify the following triangles according to the measure of their angles.



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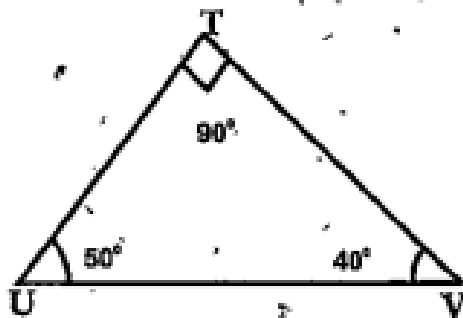
13. Classify the following triangles based on the length of their sides.



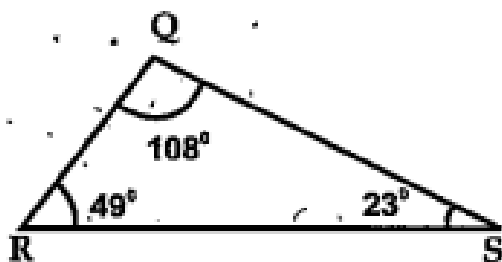
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14. Classify the following triangles based on the measure of angles.

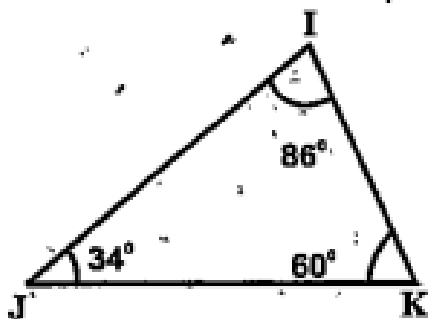
a)



b)



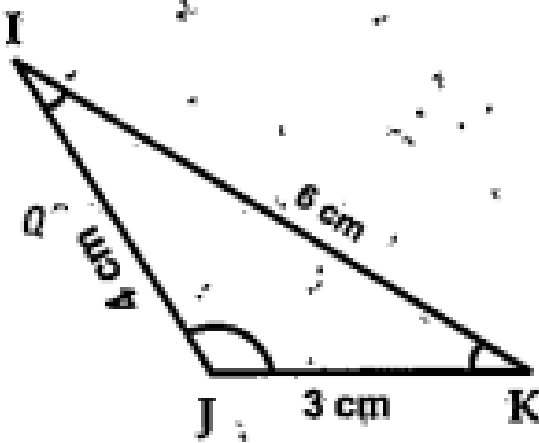
c)



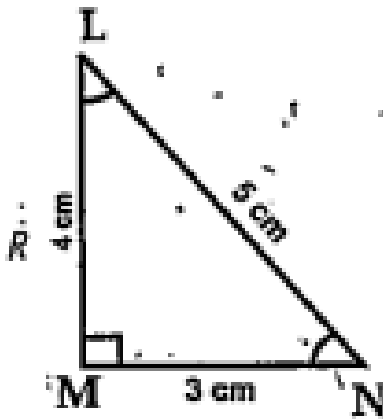
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15. Classify the following triangles based on their sides and also on their angles.

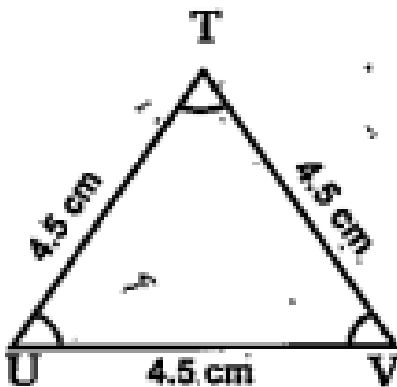
a)



b)



c)



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16. Which of the following angles form a triangle ?

60° , 70° , 80°



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17. Which of the following angles form a triangle ?

65° , 45° , 70°



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18. Which of the following angles form a triangle ?

40° , 50° , 60°



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19. Which of the following angles form a triangle ?

60° , 30° , 90°



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20. Which of the following angles form a triangle ?

38° , 102° , 40°



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21. Which of the following angles form a triangle ?

100° , 30° , 45°



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22. Sum of two interior angles of a triangle is 106° .

Find the third angle.



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23. In $\triangle PQR$, if $\angle P = 65^\circ$ and $\angle Q = 50^\circ$ then

find $\angle R$.



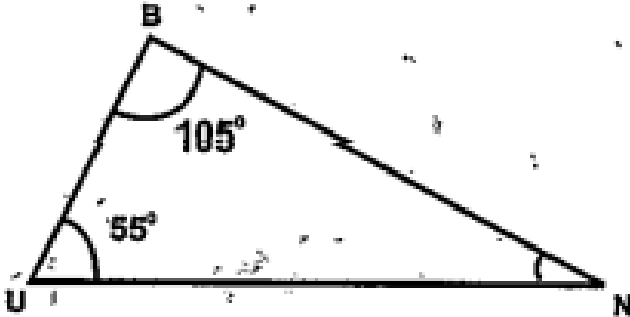
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24. Find the missing angles in each of the following triangle.



25. Find the missing angles in each of the following triangle.

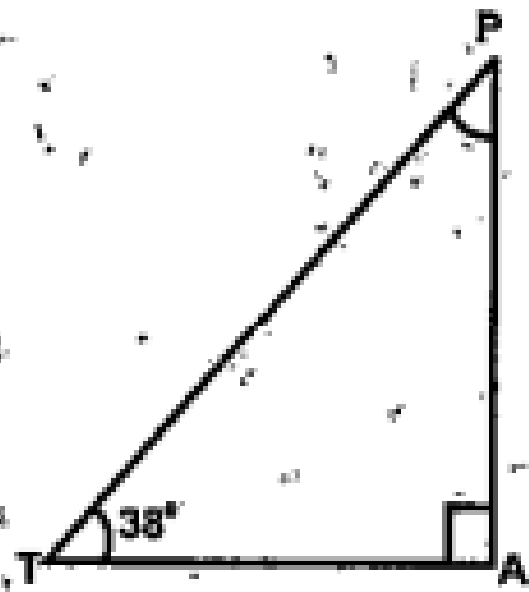
b)



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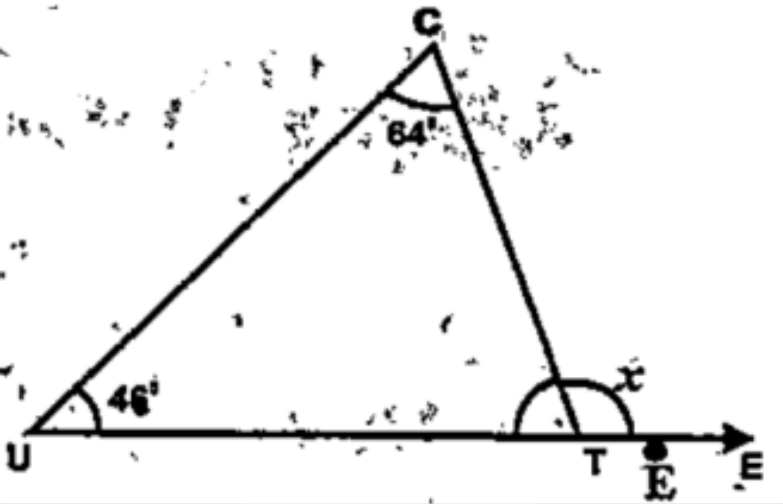
26. Find the missing angles in each of the following triangles.

c)



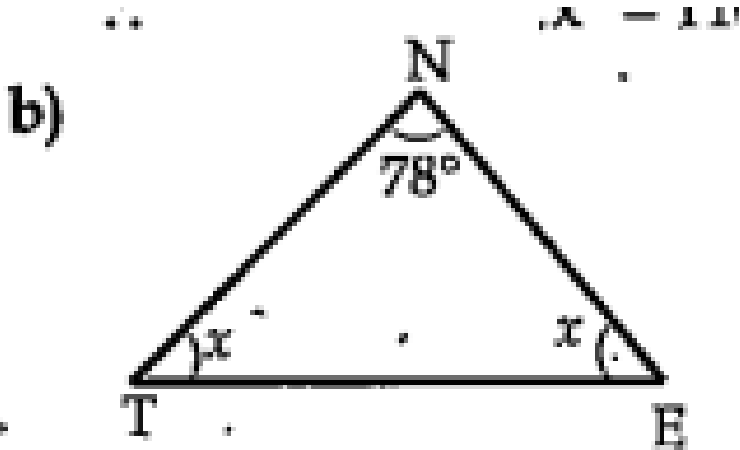
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27. Find the value of x in each of the given triangles.



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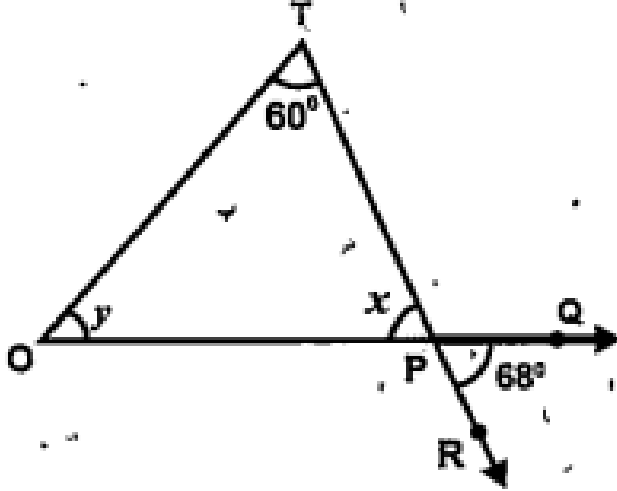
28. Find the value of x in each of the given triangles.



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29. Find the value of 'x' and 'y' in each of the following triangles.

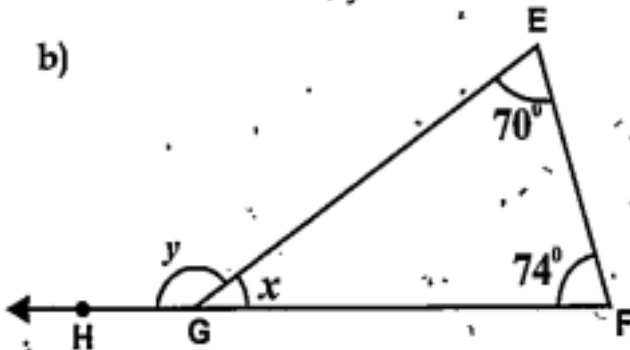
a)



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30. Find the value of 'x' and 'y' in each of the following triangles.

b)





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31. In a right angled triangle one acute angle is 37° .

Find the other acute angle.



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32. In a triangle, the angles are $2x^\circ$, $(x + 30)^\circ$ and

$(x - 10)^\circ$. Then Find the Angles.



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33. If one angle of a triangle is 80° , find the other two angles which are equal.



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34. State true or false for each of the following statements: A triangle can have two right angles.



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35. State true or false for each of the following statements: A triangle can have two acute angles.



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36. State true or false for each of the following statements: A triangle can have two obtuse angles.



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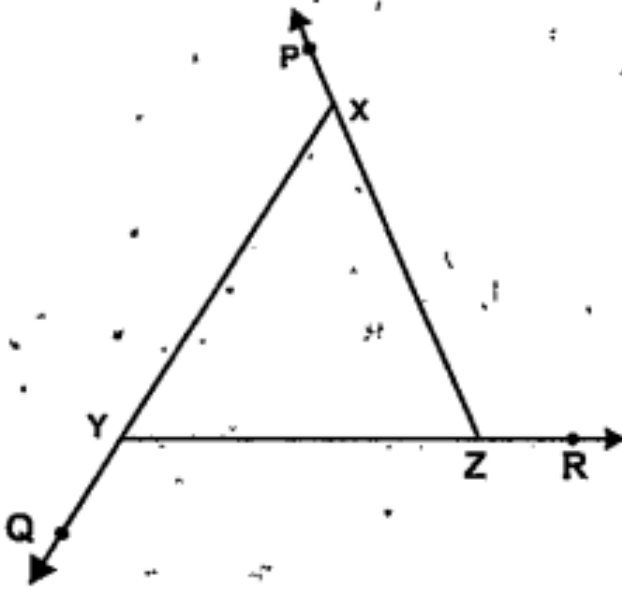
37. The angles of a triangle are in the ratio 2:4:3, then find the angles.



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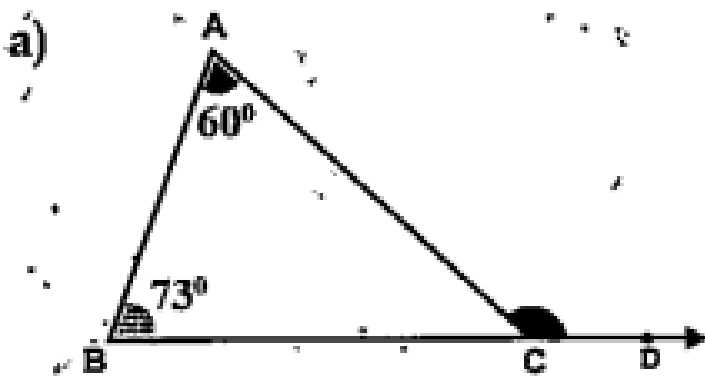
38. Write the exterior angles of $\triangle XYZ$

(P.S)



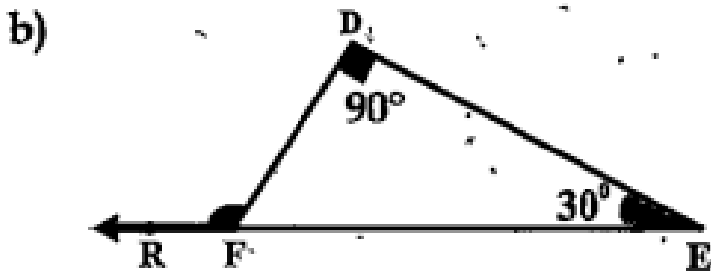
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39. Find the exterior angles in each of the following triangle:



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40. Find the exterior angles in each of the following triangle:



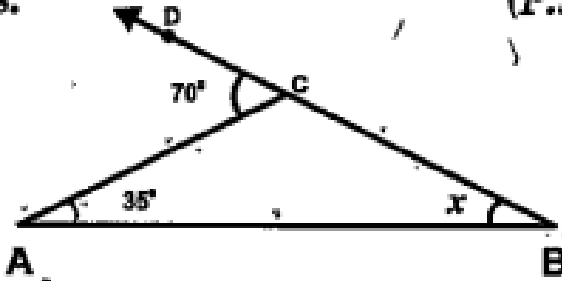
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41. Find the value of 'x' in the following figure.

figures.

(P.S)

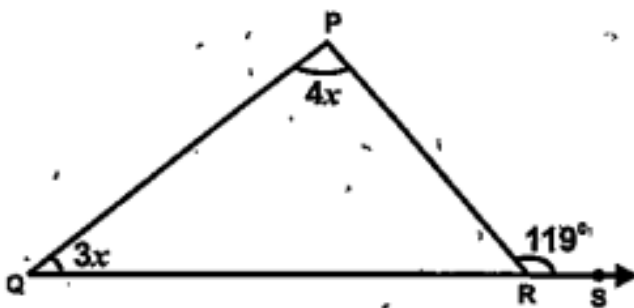
a)



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42. Find the value of 'x' in the following figure.

b)



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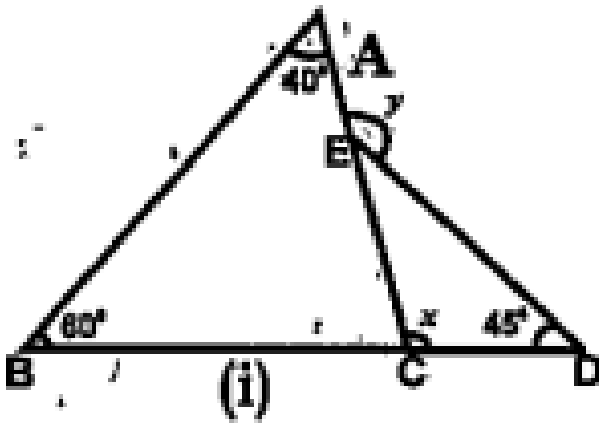
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43. If the exterior angle of a triangle is 110° and its interior opposite angles are x° and $(x + 10)^\circ$ then find the value of 'x'



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44. Find the values of 'x' and 'y' in each of the following figure.



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45. Two sides of a triangle are 5 cm and 4 cm respectively. Write any three possible measurement that suit for the third side.

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46. The lengths of line segments are 3cm,5cm,6cm and 9cm.

From the above measurements which group of the line segments can form a triangle.



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47. The lengths of line segments are 3cm,5cm,6cm and 9cm.

Which group of line segments can not form a triangle, give the reason



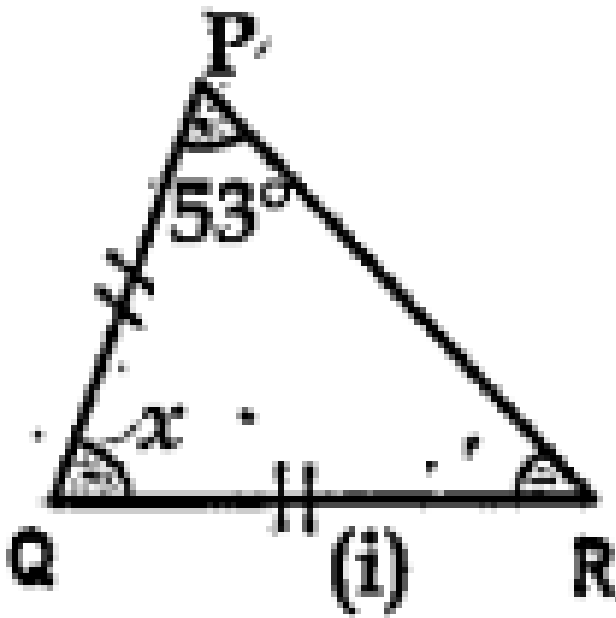
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48. $\triangle ABC$ is an isosceles triangle in which $AB = AC$. Show $\angle B = \angle C$ (Hint : Draw $AP \perp BC$) (Using RHS congruence rule)



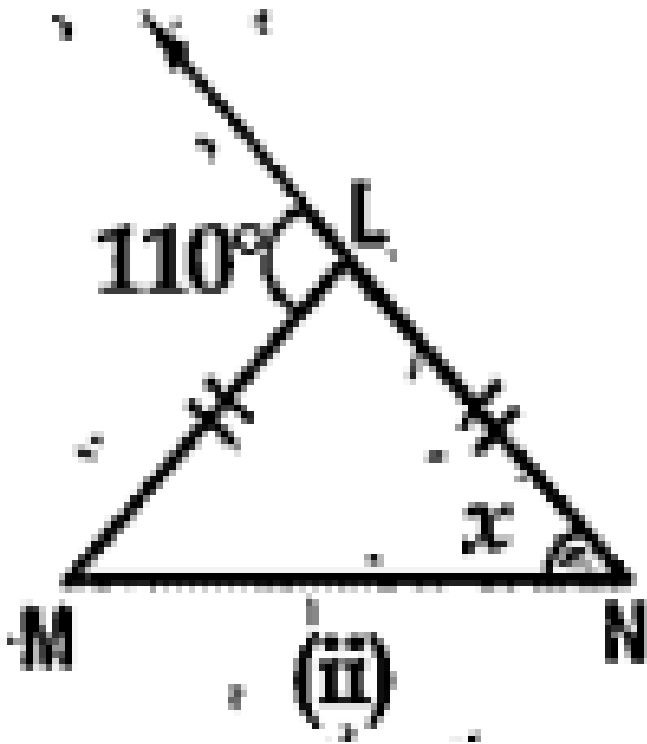
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49. Find the values of 'x' in each of the adjacent triangle.



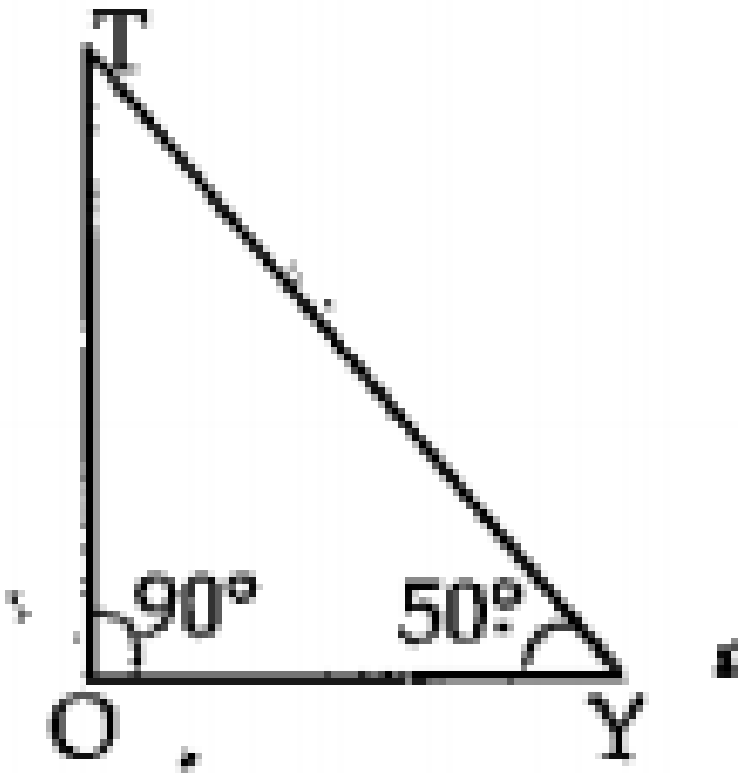
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50. Find the values of 'x' in each of the adjacent triangle.



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51. Which of the following statements are true in the following diagram.



A. $OY < OT$

B. $TY < TO$

C. $\angle Y < \angle T$

D. $TY < OY$

Answer:



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52. How many right angles exist in a triangle ?



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53. Which is the longest side in $\triangle XYZ$ having right angle at 'Z'?



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54. Is it the sum of any two angles of a triangle is always greater than the third angle? Give examples to justify your answer.

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55. Write any two possible measurements to be suitable for the following triangles.

Right angled triangle.

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56. Write any two possible measurements to be suitable for the following triangles.

Obtuse angled triangle.



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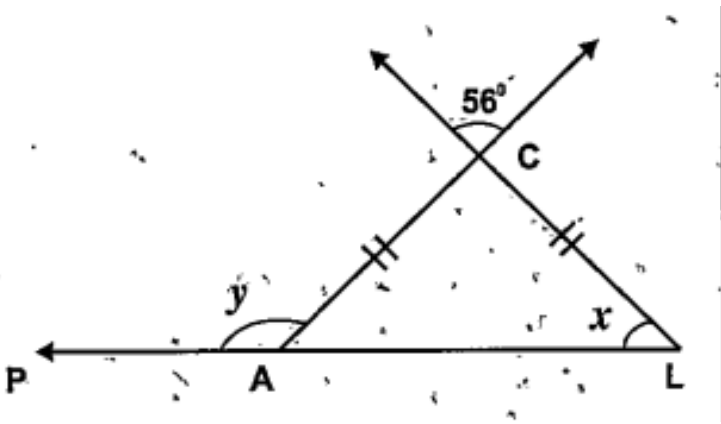
57. Write any two possible measurements to be suitable for the following triangles.

Acute angled triangle.



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58. Find the value of 'x' and 'y' in the adjacent figure.



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59. In $\triangle ABC$ angle A is four times to B and C is five times to B . Find the three angles.

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60. Ladder was faced to a wall. One end of the ladder was making 70° with the floor. Find the angle of the other end of the ladder with the wall.



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61. Construct the triangle with the measurement given in the following table .

Triangle	Measurements
ΔABC	$BC = 6.5 \text{ cm}, CA = 6.3 \text{ cm}, AB = 4.8 \text{ cm}.$
ΔPQR	$PQ = 8 \text{ cm}, QR = 7.5 \text{ cm}, \angle PQR = 85^\circ$
ΔXYZ	$XY = 6.2 \text{ cm}, \angle Y = 130^\circ, \angle Z = 70^\circ$
ΔABC	$AB = 4.8 \text{ cm}, AC = 4.8 \text{ cm}, \angle B = 35^\circ$
ΔMNP	$\angle N = 90^\circ, MP = 11.4 \text{ cm}, MN = 7.3 \text{ cm}.$
ΔRKS	$RK = KS = SR = 6.6 \text{ cm}.$
ΔPTR	$\angle P = 65^\circ, PT = PR = 5.7 \text{ cm}.$



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62. If two angles in a triangle are 75° , 55° what type of triangle is that?

A. Obtuse

B. Acute

C. Right

D. Scalene

Answer: B



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63. The following is the representation of the segment.

A. \overrightarrow{AB}

B.

C.

D.

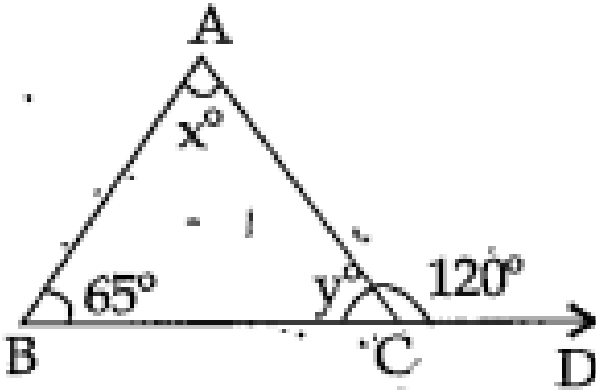
Answer: C



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64. From the adjacent figure find the values of x and

y .



A. $x = 65^\circ, y = 60^\circ$

B. $x = 55^\circ, y = 60^\circ$

C. $x = 60^\circ, y = 55^\circ$

D. $x = 60^\circ, y = 65^\circ$

Answer: C



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65. If the angle in a triangle are in the ratio of 1:2:3, then the smallest angle in radius is

A. 30°

B. 60°

C. 90°

D. 80°

Answer: A



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66. A triangle can have altitudes.

A. 1

B. 2

C. 3

D. 4

Answer: A



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67. If an exterior angle of a triangle is 130° and one of the interior opposite angle is 60° . Find the Other

interior opposite angle.

A. 60°

B. 80°

C. 70°

D. 50°

Answer: C



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68. If in a triangle two angles are equal and the third angle is 120° , what are the equal angle?

A. 40° , 40°

B. 30° , 30°

C. 20° , 20°

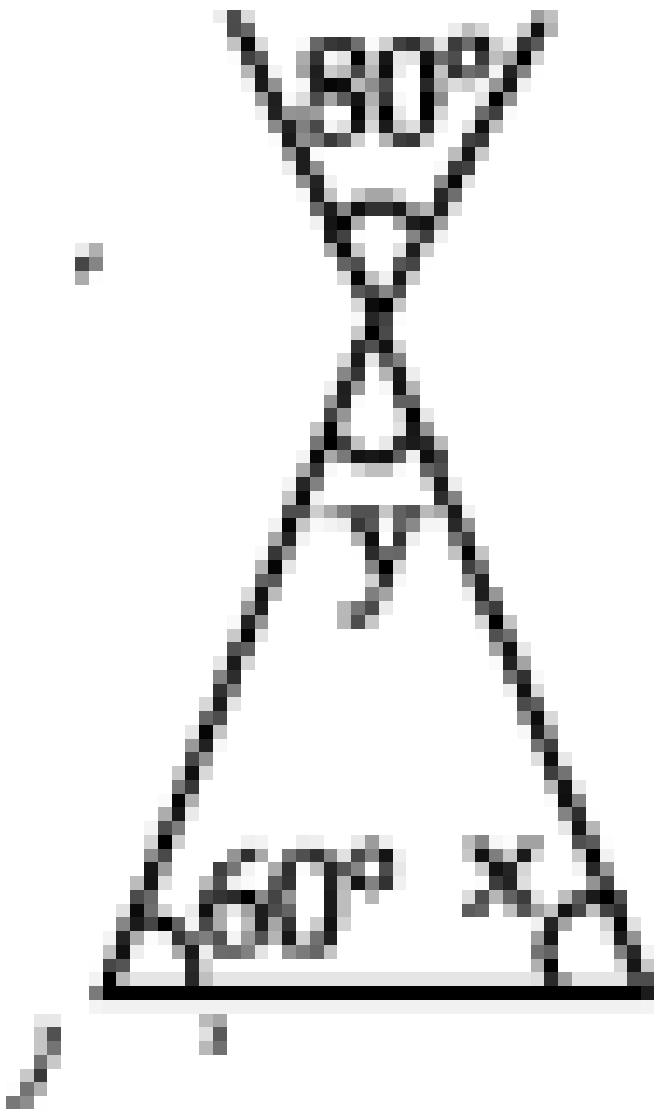
D. 50° , 50°

Answer: B



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69. Find x and y value from the figure.



A. $x = 40^\circ, y = 80^\circ$

B. $x = 80^\circ, y = 40^\circ$

C. $x = 70^\circ, y = 60^\circ$

D. $x = 80^\circ, y = 70^\circ$

Answer: A



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70. An obtuse angled triangle has..... acute angles.

A. one

B. two

C. three

D. zero

Answer: B



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71. The angle of an equilateral triangle is

A. 70°

B. 50°

C. 60°

D. 40°

Answer: C



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72. In a right angled isosceles triangle the acute angles.

A. 30°

B. 40°

C. 50°

D. 45°

Answer: D



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73. An acute angled triangle has acute angles.

A. 1

B. 2

C. 3

D. 4

Answer: C



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74. A triangle which has maximum two acute angles is

A. Obtuse

B. Right

C. A and B

D. None

Answer: C



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75. The following are acute angled triangles

A. Equilateral

B. Isosceles

C. Scalene

D. Above all

Answer: D



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76. The following is the possible third side if the two sides are 6cm, 9cm

A. 1 cm

B. 2 cm

C. 3 cm

D. 6 cm

Answer: D



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77. Match the following

i) $AB + BC > AC$ () a) $BC < AC$

ii) $BC - CA < AB$ () b) $CA < AB$

iii) AD is altitude, then $AD < AC$ () c) $AB < AC$

A. i-a,ii-b,iii-c

B. i-b,ii-a,iii-c

C. i-b,ii-c,iii-c

D. i-c,ii-b,iii-a

Answer: C



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78. The altitude of the triangle lies outside of the triangle.

A. Acute angled

B. Right angled

C. Obtuse angled

D. Scalene

Answer: C



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79. In $\triangle ABC$ if $\angle A = 3\angle B$ and $\angle C = 2\angle B$ find the angles of $\triangle ABC$.

A. $90^\circ, 30^\circ, 60^\circ$

B. $60^\circ, 60^\circ, 60^\circ$

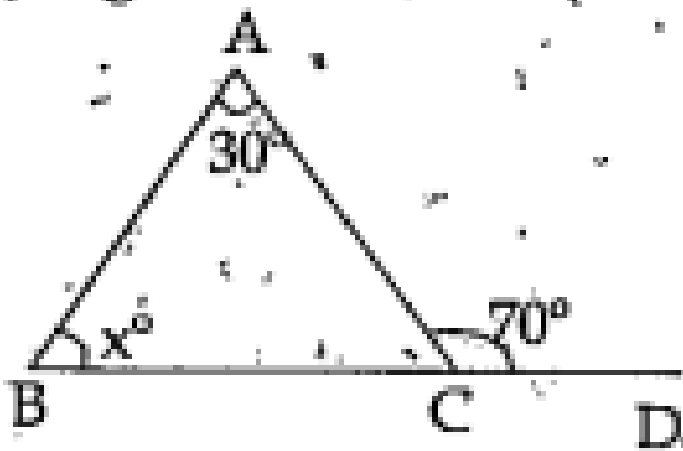
C. 90° , 45° , 45°

D. 50° , 40° , 90°

Answer: A

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80. In adjacent figure $x^\circ = \dots\dots\dots$



A. 70°

B. 30°

C. 100°

D. 40°

Answer: D



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81. Which of the following are the possible sides of a triangle?

A. 3cm,5cm,10cm

B. 4cm, 4cm, 8cm,

C. 3cm, 4cm, 5cm

D. 10cm, 5cm, 2cm

Answer: C



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82. If the three angles of a triangle are in the ratio

1:2:3, then the angles are

A. 40° , 60° , 80°

B. 30° , 60° , 90°

C. 50° , 100° , 150°

D. 30° , 50° , 100°

Answer: B



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83. In $\triangle XYZ$ $\angle X = 30^\circ$, $\angle Y = 45^\circ$ then find $\angle Z$

A. 75°

B. 15°

C. 95°

D. 105°

Answer: D



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84. In the given figure, the values of $x+y$ is

A. 1206°

B. 190°

C. 110°

D. 180°

Answer: B



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85. Angles of a triangle are 30° , 110° , x° then x is

A. 50°

B. 40°

C. 60°

D. 15°

Answer: B



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86. The lengths of two sides of an isosceles triangle are 7cm,8cm then the possible third side is of length

A. 7 cm

B. 9 cm

C. 8 cm

D. 7 or 8 cm

Answer: D



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87. The exterior angle of an equilateral triangle is

A. 60°

B. 120°

C. 150°

D. 90°

Answer: B



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88. The angles of a triangle are in the ratio 3:1:2
then biggest angle is

A. 60°

B. 120°

C. 90°

D. 30°

Answer: C



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89. The two angles of a triangle are complementary then it is triangle

A. Acute angled

B. Obtuse angled

C. Right angled

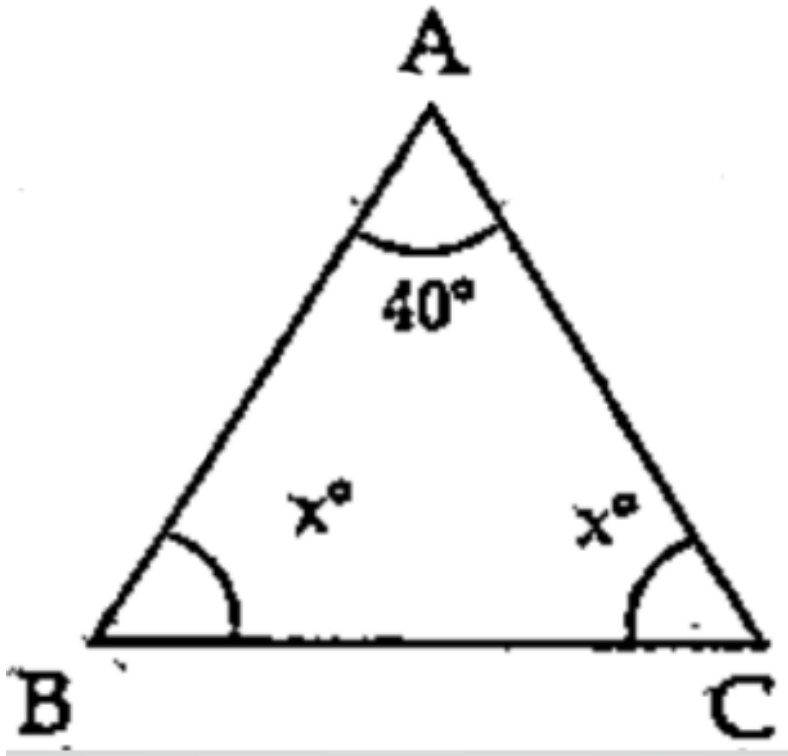
D. Equilateral

Answer: C



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90. Find x in the figure



A. 40°

B. 60°

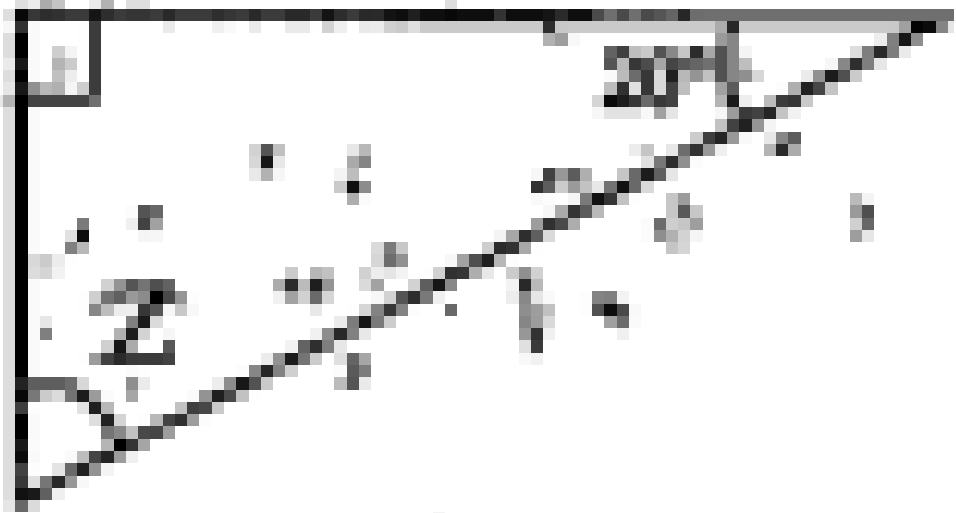
C. 50°

D. 70°

Answer: D

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91. Find Z in the figure



A. 70°

B. 60°

C. 50°

D. 40°

Answer: A



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92. In a $\triangle PQR$ if $\angle P = 100^\circ$ and $\angle Q = \angle R$

then $\angle P + \angle R = \dots\dots\dots$

A. 100°

B. 180°

C. 140°

D. 40°

Answer: C



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93. Match the following

Group - A

- i) $60^\circ, 60^\circ, 60^\circ$
 $45^\circ, 45^\circ, 90^\circ$
- iii) $100^\circ, 40^\circ, 40^\circ$
- iv) $90^\circ, 30^\circ, 60^\circ$
- v) $50^\circ, 50^\circ, 80^\circ$

Group - B

- a) Obtuse angled triangle
- b) Isosceles triangle
- c) Right angled triangle
- d) Equilateral triangle
- e) Right angled isosceles triangle

A. i-a,ii-b,iii-c,iv-d,v-e

B. i-d,ii-e,iii-a,iv-c,v-b

C. i-c,ii-d,iii-e,iv-a,v-a

D. i-e,ii-d,iii-c,iv-b,v-a

Answer: B



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94. An acute angled triangle has acute angles.

A. 1

B. 2

C. 3

D. 0

Answer: C



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95. Which type of triangle is formed by $BC = 7.2$ cm, $AC = 6$ cm and $\angle C = 120^\circ$?

- A. An acute angled triangle
- B. An obtuse angled triangle
- C. A right angled triangle
- D. An isosceles triangle

Answer: B



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96. Which triangle is formed by $AB = 3\text{cm}$, $BC = 4\text{cm}$ and $AC = 8\text{cm}$?

- A. A scalene triangle
- B. An isosceles triangle
- C. An equilateral triangle
- D. No triangle is formed

Answer: D





97. P: An isosceles triangle is right angled

Q: $\angle A = \angle B = 45^\circ$ and $\angle C = 90^\circ$

Which of the following statements is true ?

- A. P is true and Q is not the correct explanation of P.
- B. P is false
- C. Q is true P is the correct explanation of P
- D. P is true and Q is the correct explanation of P.

Answer: D



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98. Which of the following statements is not true

- A. A triangle can have three 60° angles.
- B. A triangle can have one right angles.
- C. A triangle can have two right angles.
- D. A triangle can have all three angles equal.

Answer: C



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99. Which of the following angles are not the angles of a triangle?

A. 45° , 65° , 70°

B. 45° , 55° , 65°

C. 60° , 60° , 60°

D. 30° , 60° , 90°

Answer: B



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100. Sum of the interior angles in a triangle is equal to

- A. Two right angles
- B. Two straight angles
- C. Right angles
- D. 0°

Answer: A



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101. Sum of two acute angles of a right angled triangle is

A. 90°

B. 60°

C. 30°

D. 180°

Answer: A



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102. In $\triangle ABC$, which of the following is false?

A. $AB - BC < AC$

B. $BC + CA > AB$

C. $AB - BC = AC$

D. None

Answer: C



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103. triangle can have ___ obtuse angles

A. 0

B. 1

C. 2

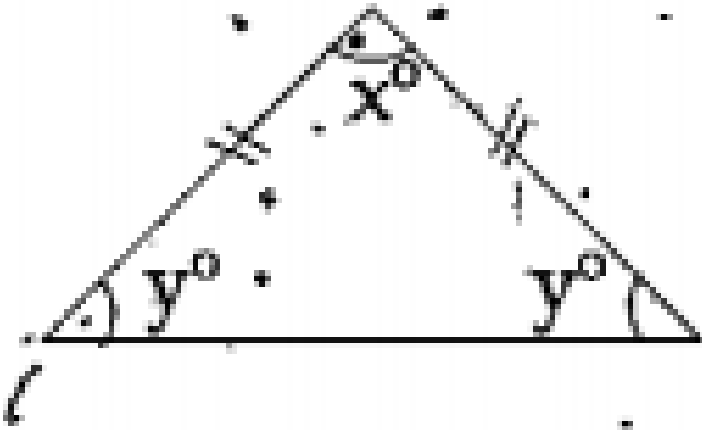
D. 3

Answer: B



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104. The relation between x and y the given figure expressed with ' y ' as subject is



A. $y = 1/2(180-x)$

B. $y = 1/2(180+x)$

C. $2y = 180-x$

D. $x = 180+2y$

Answer: A



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105. Following lengths of the sides of a triangle are given. In which case it is not possible to construct triangle (in cms)

A. 3,4,5

B. 6,6,6

C. 4,4,8

D. 3,5,7

Answer: C



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106. The sum of interior angles in a pentagon is

A. 270°

B. 360°

C. 540°

D. 480°

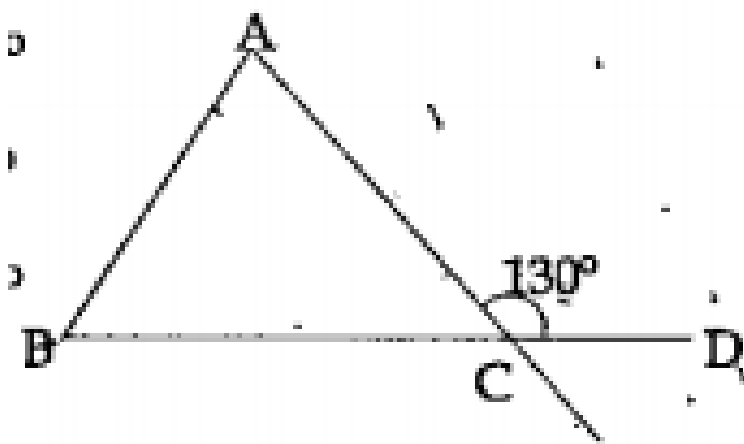
Answer: C



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107. The opposite interior angles are in the ratio 1:4,

then $\angle A, \angle B = ?$



A. 26° , 104°

B. 104° , 26°

C. 75° , 105°

D. 50° , 80°

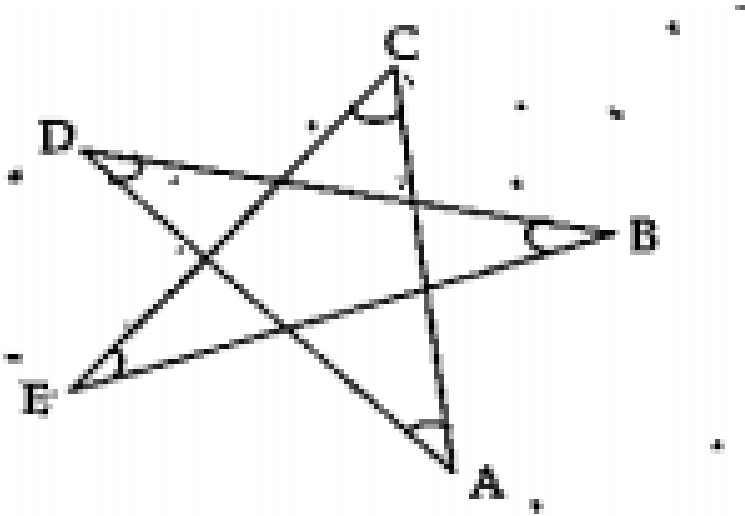
Answer: A



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108. In the adjacent figure

$$\angle A + \angle B + \angle C + \angle D + \angle E = \dots\dots\dots$$



A. 90°

B. 360°

C. 270°

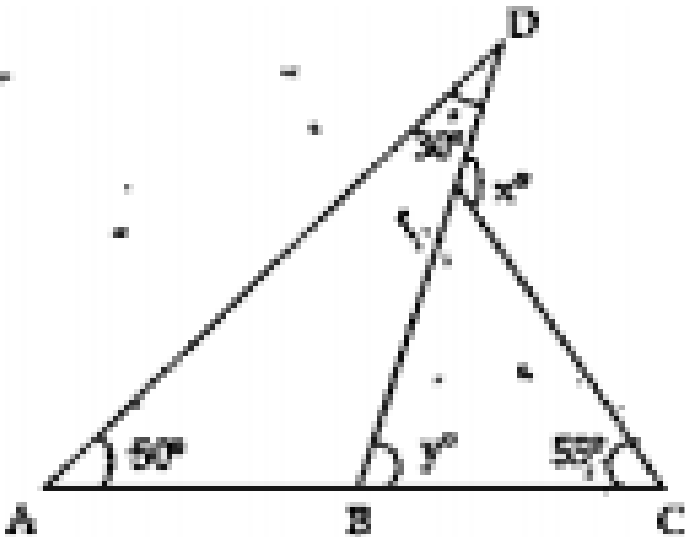
D. 540°

Answer: D



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109. Find the value of x and y



A. 135° , 80°

B. 80° , 135°

C. 70° , 125°

D. 125° , 70°

Answer: A



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110. A simple closed figure formed by three line segments is called



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111. A triangle with three equal sides is an
trinagle.



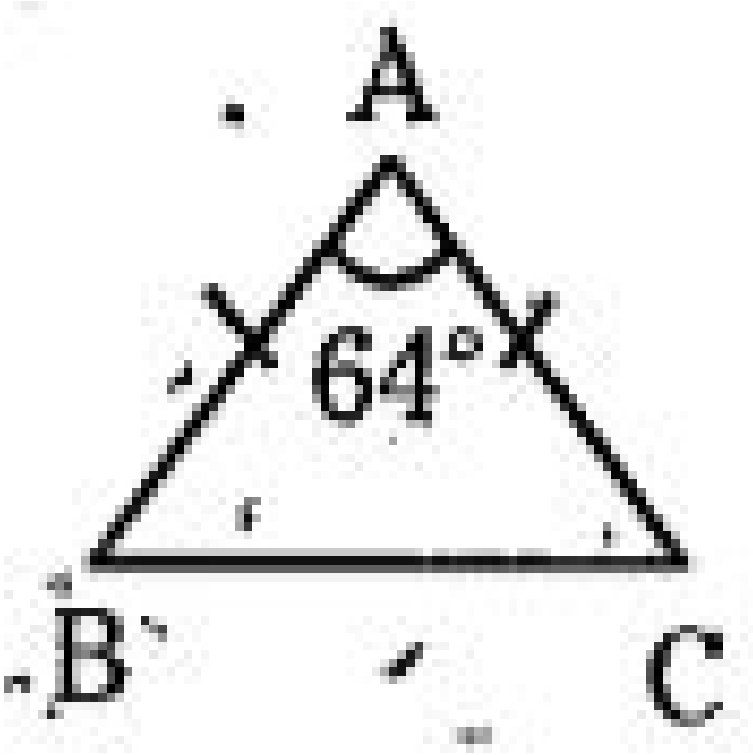
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112. A triangle with three equal sides is an
trinagle.



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113. In $\triangle ABC$, $AB = AC$, then $\angle B = \underline{\hspace{2cm}}$



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114. The angle of an equilateral triangle is



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115. Number of obtuse angles possible in a triangle

.....



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116. How many right angles exist in a triangle ?



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117. One of the acute angle in right angle triangle is

30° then the other angle is



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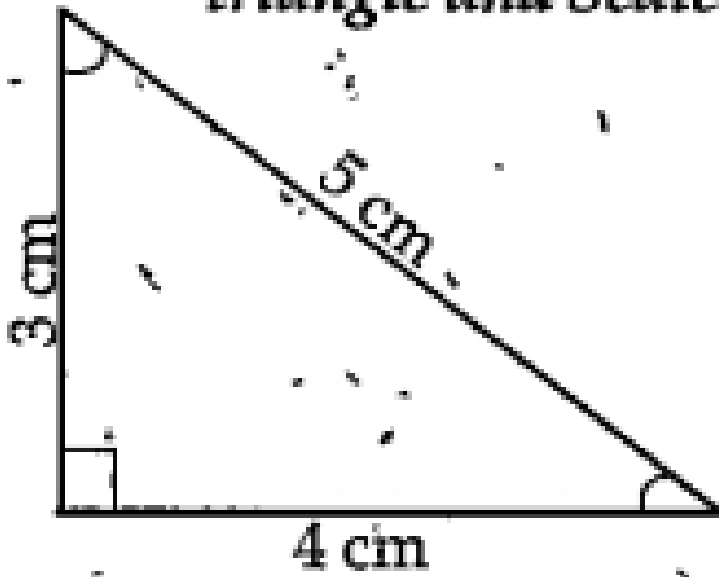
118. The opposite side of right angle is



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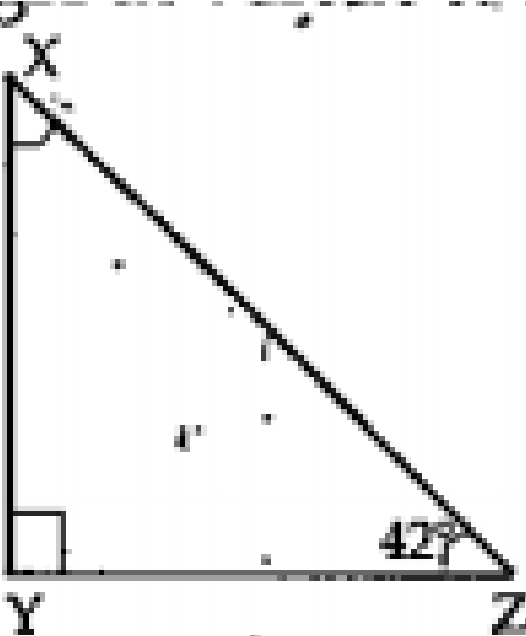
119. Based on their angle and sides which type of triangles shown in the figure and

Triangle and Scales



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120. The angle vertex 'x' is



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121. In a triangle two angles are 33° and 47° then third angle is

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122. The sum of three angles of a triangle is

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123. The value of x in the adjacent figure



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124. The value of $x = \dots\dots\dots$, and $y = \dots\dots\dots$ in the adjacent figure.



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125. The sum of lengths of any two sides of a triangle is $\dots\dots\dots$ the third side of the triangle.



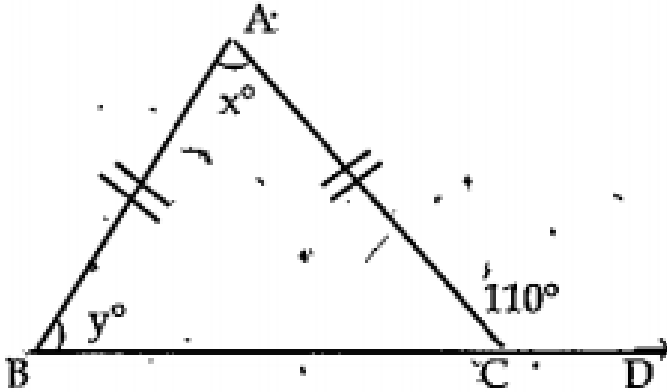
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126. In any triangle the opposite side to the smaller angle is $\dots\dots\dots$ the other two sides.



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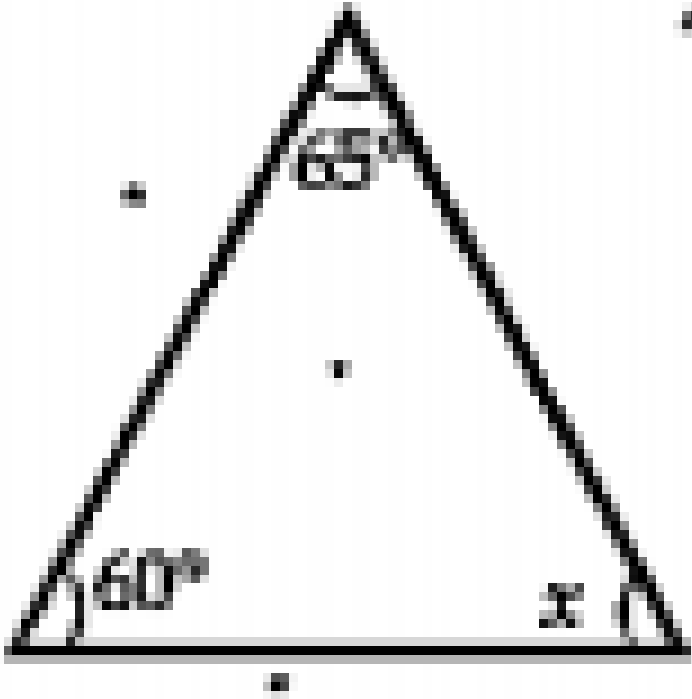
127. The values of x and y in the given figure are



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128. What is a triangle?

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129.

Find

the value of x in the given figure.



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130. In $\triangle PQR$, if $\angle P = 65^\circ$ and $\angle Q = 50^\circ$ then find $\angle R$.



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131. What are the measurements of angles of an equilateral triangle?



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132. How many right angles exist in a triangle ?



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133. We can form a triangle with each angle less than 60° .



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134. State true or false for each of the following statements: A triangle can have two acute angles.



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135. The sum of three angles of a triangle is



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136. Two angles of a triangle are 30° and 80° . Find the third angle.



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137. The three angles of a triangle are in the ratio 1:2:1. Find all the angles of the triangle. Classify the triangle in two different ways.



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138. The angles of a triangle are in the ratio $1 : 2 : 3$.

Find the angles.



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139. The length of two sides of a triangle are 12cm and 15cm. Between what two measure should the length of the third side fall?



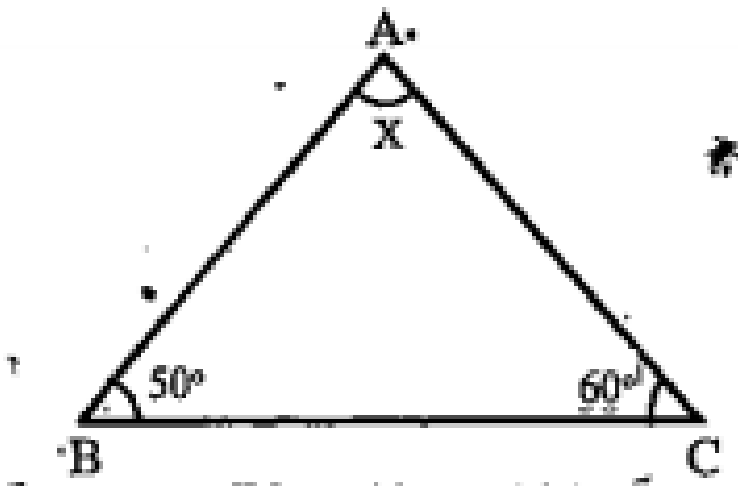
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140. If the angles of a triangle are in the ratio 1: 4:5, find the angles.

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141. Find the value of the unknown x in the following diagrams:

By angle sum property of a triangle.

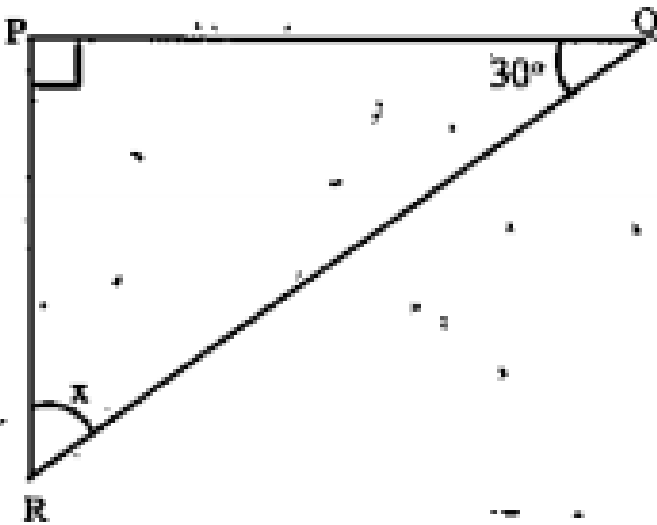




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142. Find the value of the unknown x in the following diagrams:

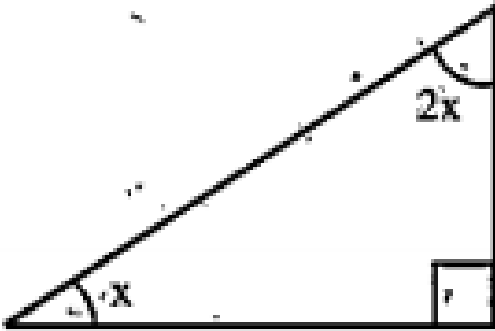
By angle sum property.



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143. Find the value of 'x' from adjacent fig.

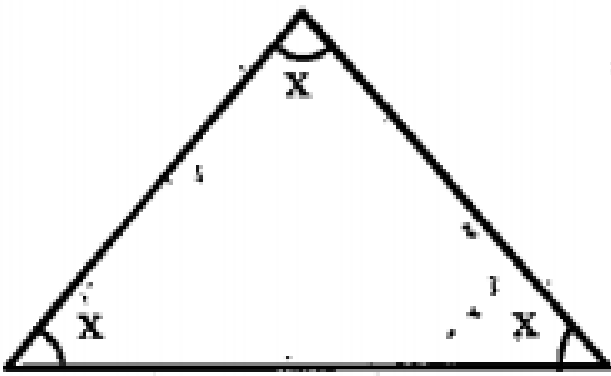
By angle sum property



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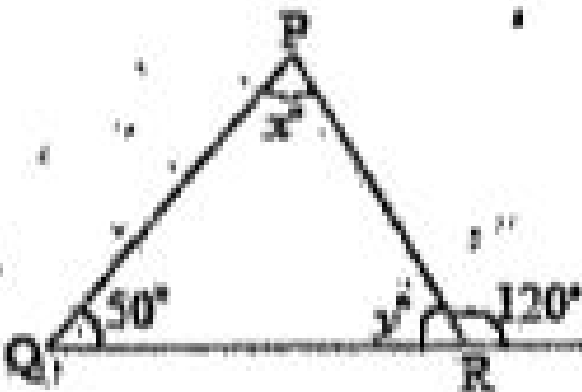
144. Find the value of 'x' from adjacent fig.

By angle sum property of a triangle



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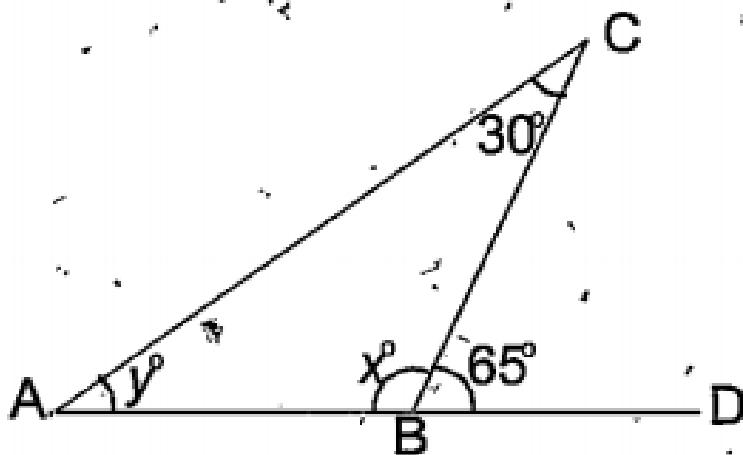
145. Find the values of the unknowns 'x' and 'y' in the following diagrams.





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146. Find the measure of angles x and y .

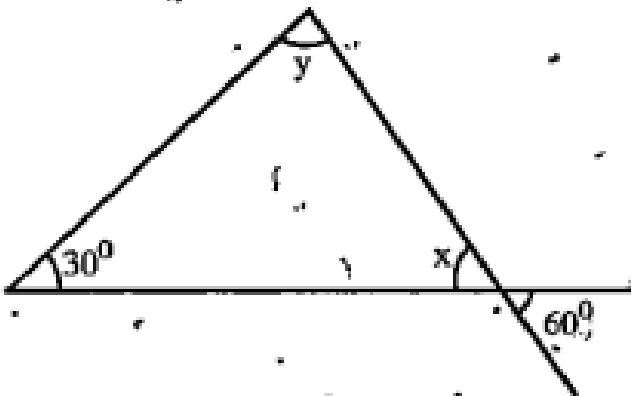


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147. One of the exterior angle of a triangle is 105° and the interior opposite angles are in the ratio 2:5. Find the angles of the triangle.

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148. Find the value of 'x' from the given adjacent figures and 'y'.





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149. Is it possible to have a triangle with the following sides ?

2 cm,3cm,5cm



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150. Is it possible to have a triangle with the following sides ?

3cm,6cm,7cm



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151. Is it possible to have a triangle with the following sides ?

6cm,3cm,2cm



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152. One of the exterior angles of a triangle is 125° and the interior opposite angles are in the Ratio 2:3. Find the angles of the triangle.



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