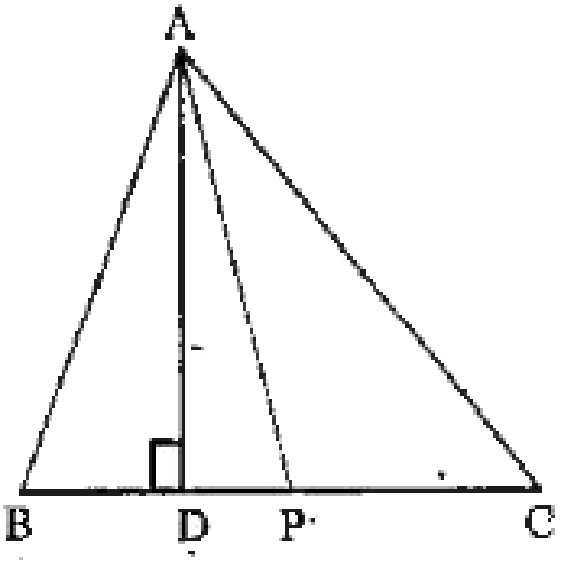
MATHS

BOOKS - SWAN PUBLICATION

TRIANGLES

Exercise 1

1. In ΔABC, P is mid point of BC, then



BP= .....

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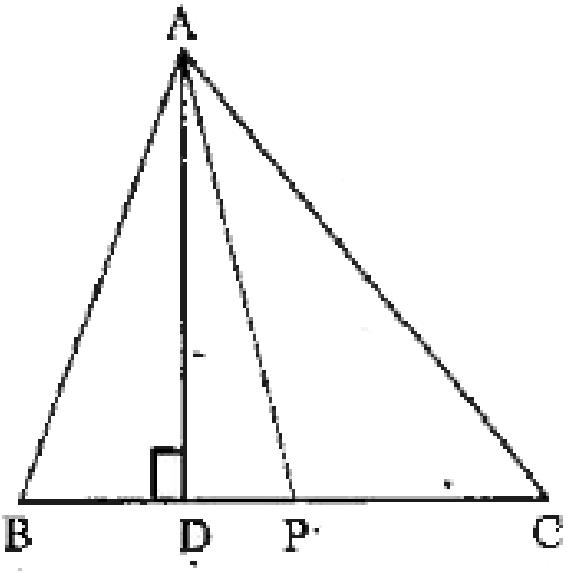
2. In ΔABC, P is mid point of BC, then



AP is a .....of ΔABC

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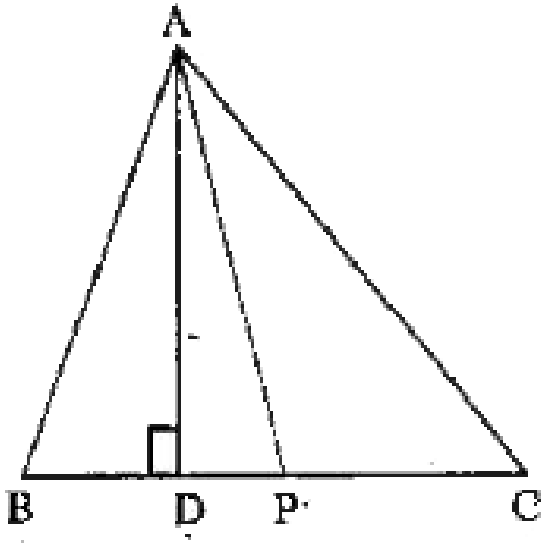
3. In ΔABC, P is mid point of BC, then



$\angle ADC$= .....

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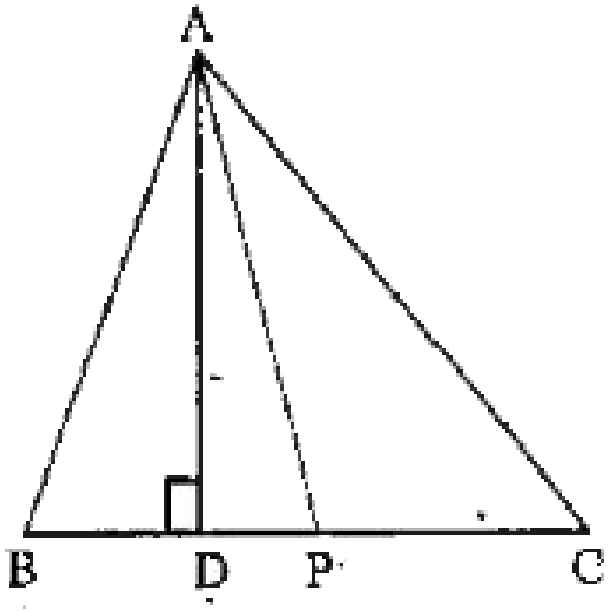
4. In ΔABC, P is mid point of BC, then



BD= BC (True/false)

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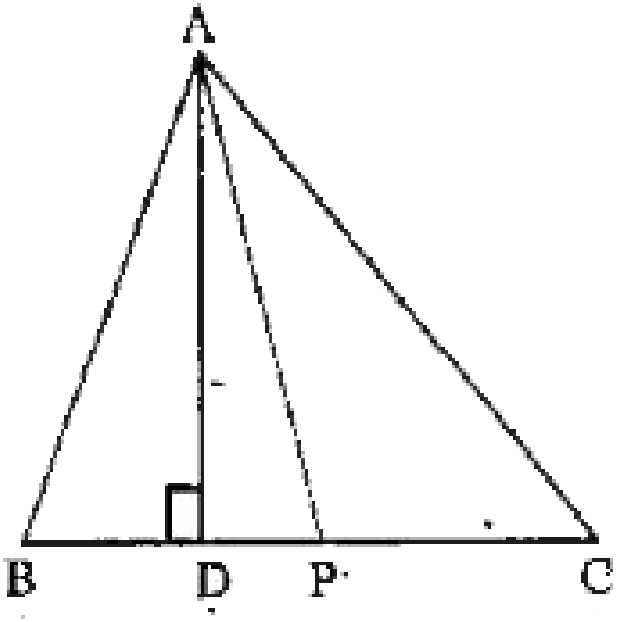
5. In ΔABC, P is mid point of BC, then



AD is an .....of ΔABC

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6. Draw AD, BE, CF three medians in a ΔABC

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7. Draw an equilateral triangle and its medians.

Also compare the lengths of the medians.

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8. Draw an isosceles triangle ABC in which AB=BC.

Also draw its altitudes.

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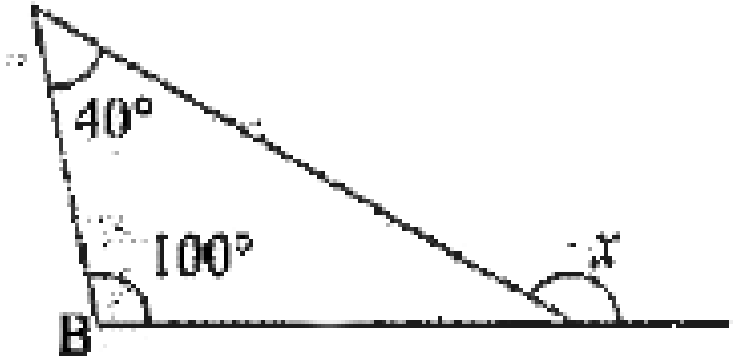
9. Find the value of the unknown exterior angles



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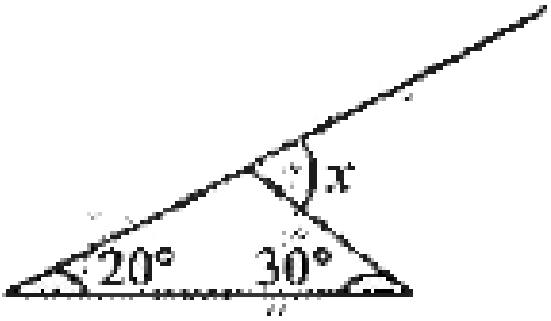
10. Find the value of the unknown exterior angles



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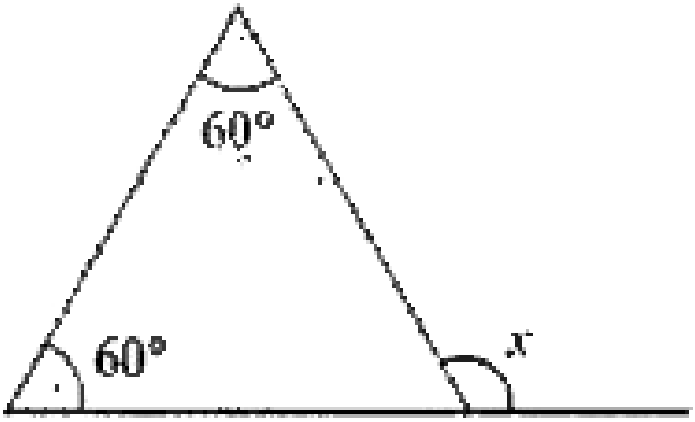
11. Find the value of the unknown exterior angles



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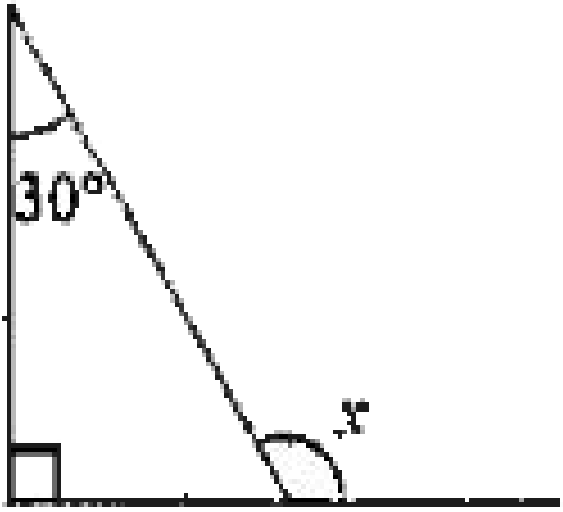
12. Find the value of the unknown exterior angles



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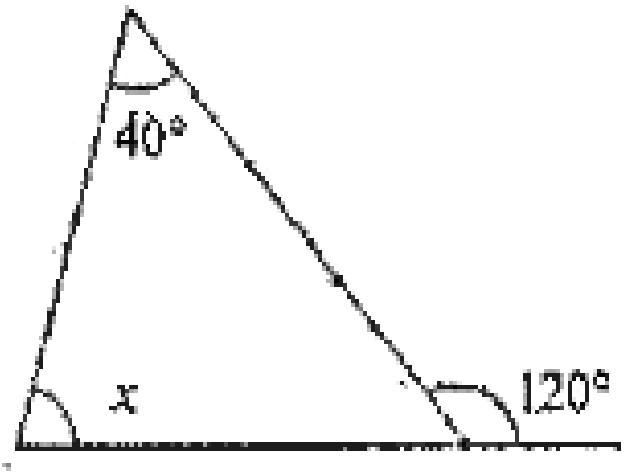
13. Find the value of x in the following figures



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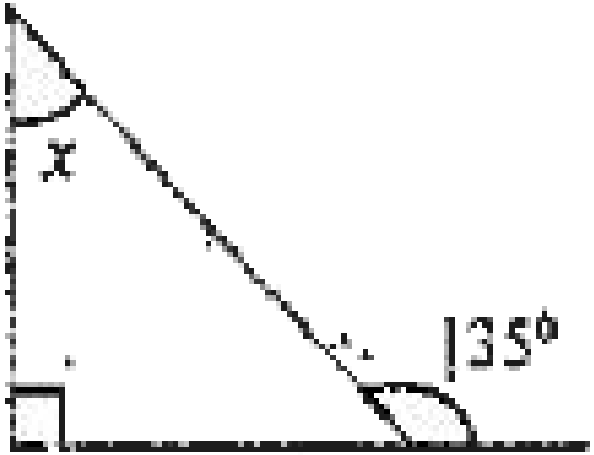
14. Find the value of x in the following figures



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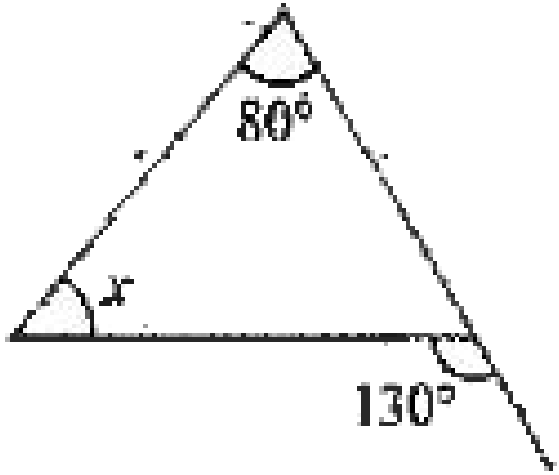
15. Find the value of x in the following figures



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16. Find the value of x in the following figures

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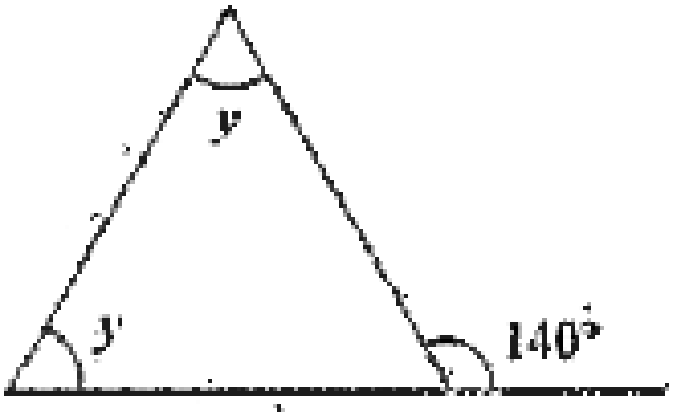
17. Find the value of y in following figures



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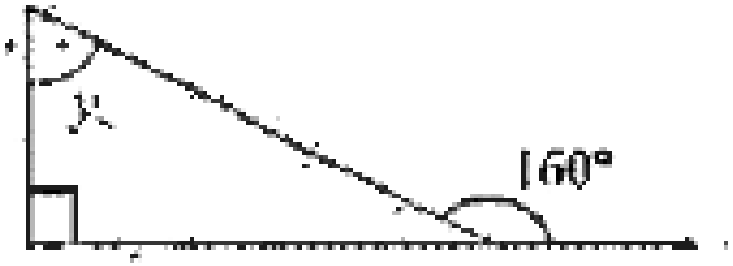
18. Find the value of y in following figures



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19. Find the value of y in following figures

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Exercise 2

1. State, if a triangle is possible with the following angles

$35^\circ, 70^\circ, 65^\circ$

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2. State, if a triangle is possible with the following angles

$70^\circ, 50^\circ, 60^\circ$

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3. State, if a triangle is possible with the following angles

$90^\circ, 80^\circ, 20^\circ$

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4. State, if a triangle is possible with the following angles

$60^\circ, 60^\circ, 60^\circ$

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5. State, if a triangle is possible with the following angles

$90^\circ, 90^\circ, 90^\circ$

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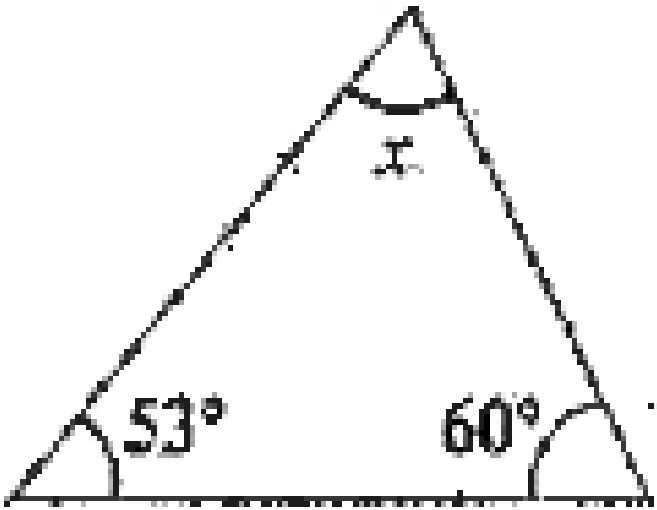
6. Find the value of x in the following figures



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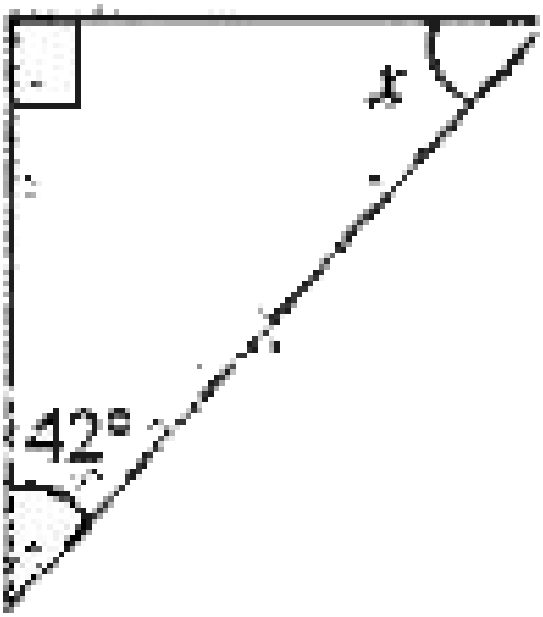
7. Find the value of x in the following figures



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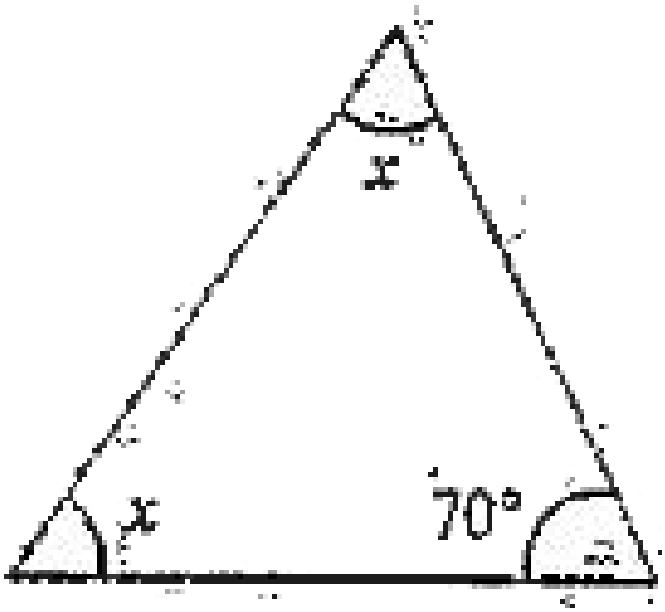
8. Find the value of x in the following figures



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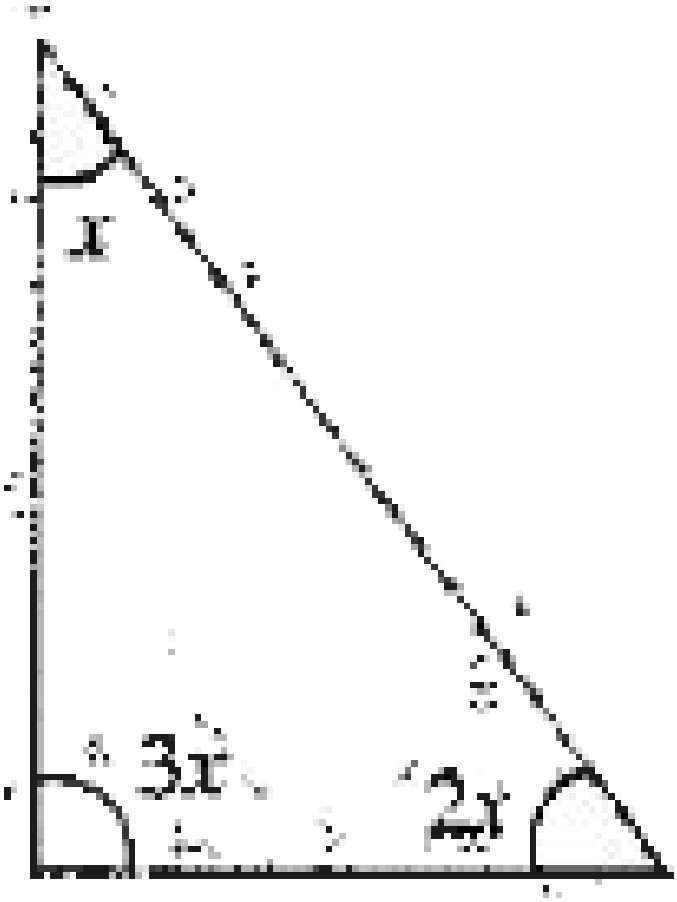
9. Find the value of x in the following figures



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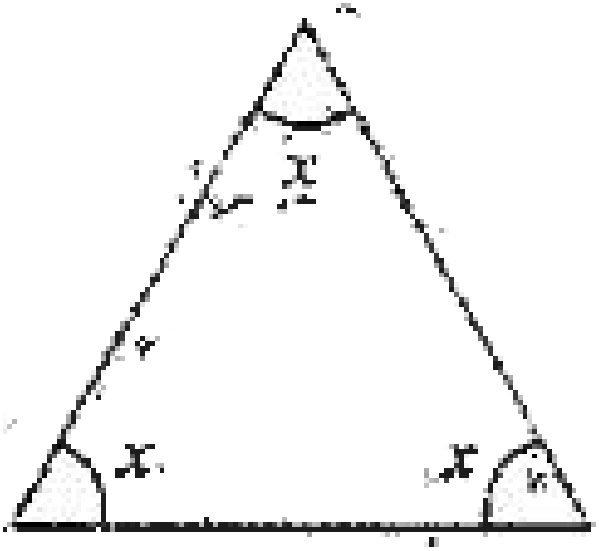
10. Find the value of x in the following figures



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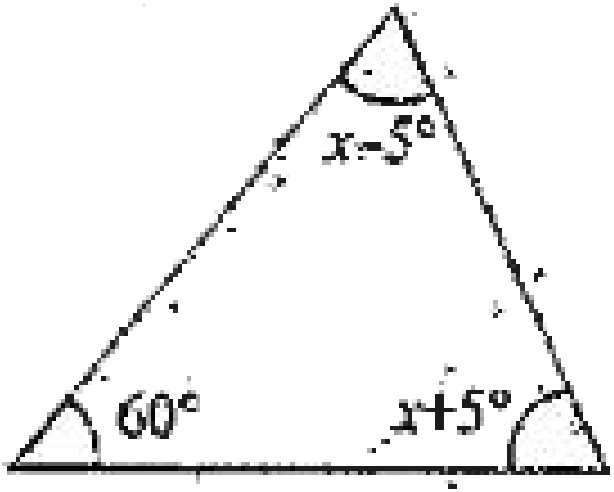
11. Find the value of x in the following figures



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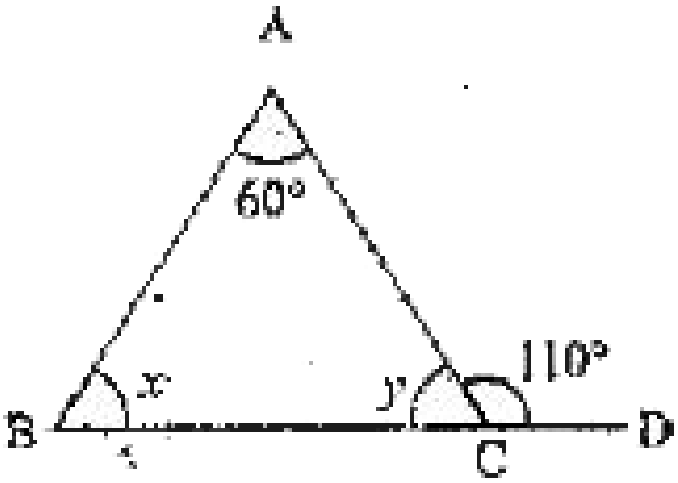
12. Find the values of x and y in the following figures



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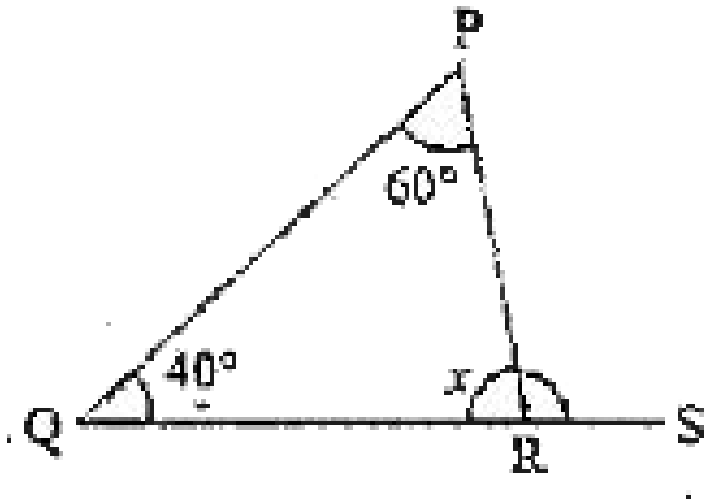
13. Find the values of x and y in the following figures



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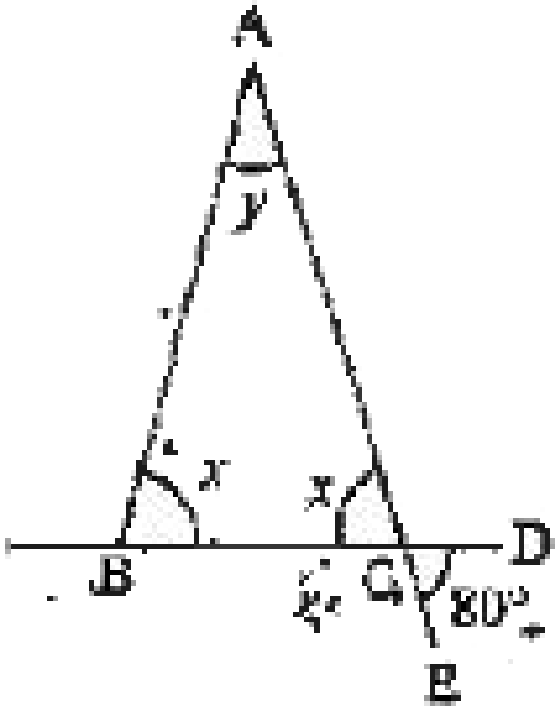
14. Find the values of x and y in the following figures



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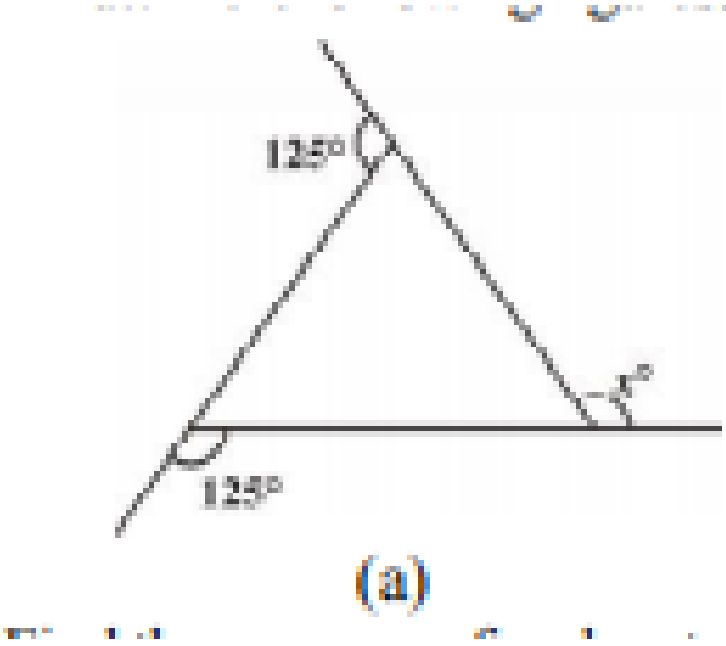
15. Find x in the following figures.



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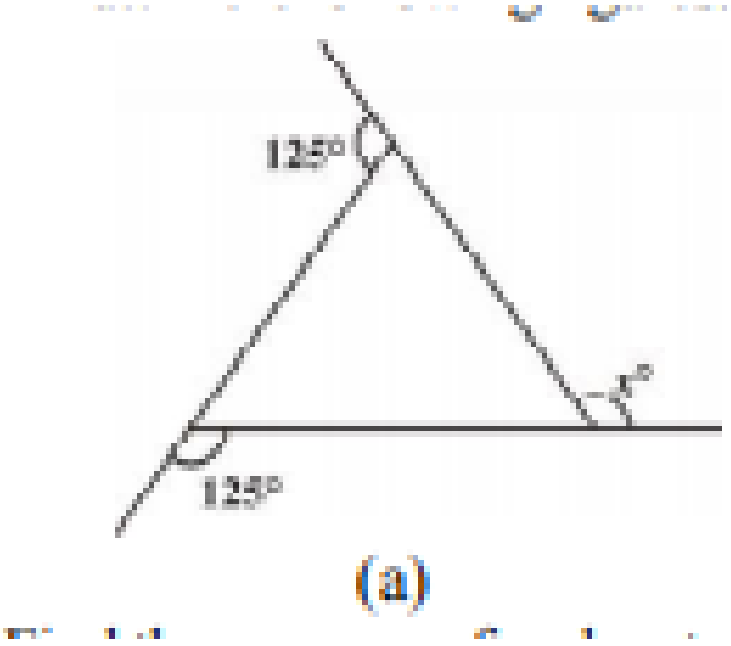
16. Find x in the following figures.



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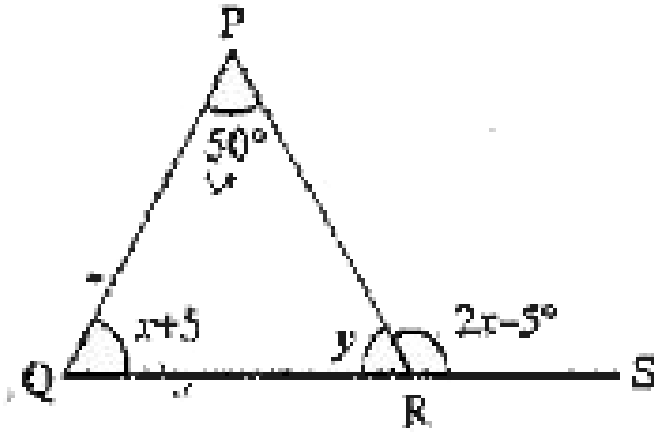
17. Find the values of x and y in the following figures



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18. The angles of a triangle are in the ratio $5:6:7$. Find the measure of each of the angles.

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19. One angle of a triangle is 60°. The other two angles are in the ratio $4:8$. Find the angles.

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20. In a triangle ABC, $\angle B = 50^\circ$, $\angle C = 62^\circ$ Find $\angle A$

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21. In a right angled triangle two acute angles are in the ratio $2:3$. Find the angles.

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22. Three angles of a triangle are $(2x+20)^\circ, (x+30)^\circ$ and $(2x-10)^\circ$. Find the angles

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23. Multiple choice questions

A triangle can have two.....

A. Acute angles

B. Obtuse angles

C. Right angles

D. None of these

Answer: A

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24. Multiple choice questions

A triangle is possible with measure of angles

A. $30^\circ, 40^\circ, 100^\circ$

B. $60^\circ, 60^\circ, 70^\circ$

C. $60^\circ, 50^\circ, 70^\circ$

D. $90^\circ, 89^\circ, 92^\circ$

Answer: C

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25. Multiple choice questions

One of the base angles of an isosceles triangle is 45° then its third angle is

A. 45°

B. 60°

C. 100°

D. 90°

Answer: D

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26. Multiple choice questions

The number of obtuse angles that a triangle can have

A. 2

B. 1

C. 3

D. 4

Answer: B

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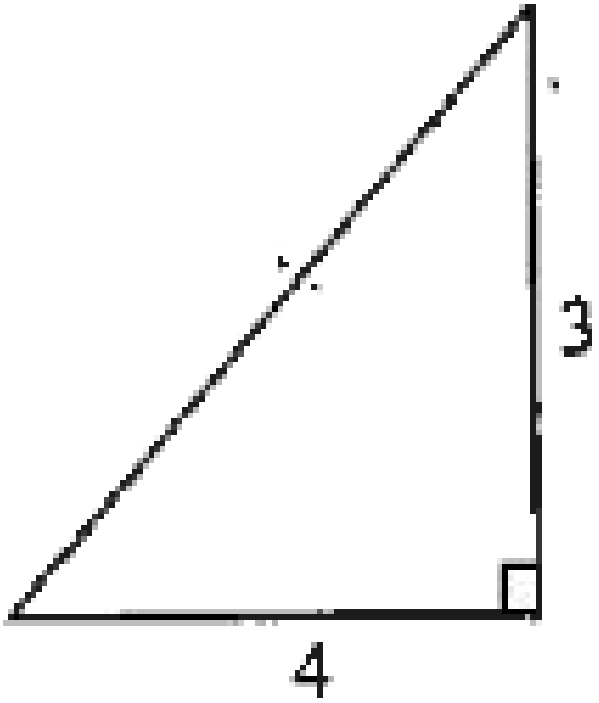
Exercise 3

1. Find the length of the unknown side is each of following figures



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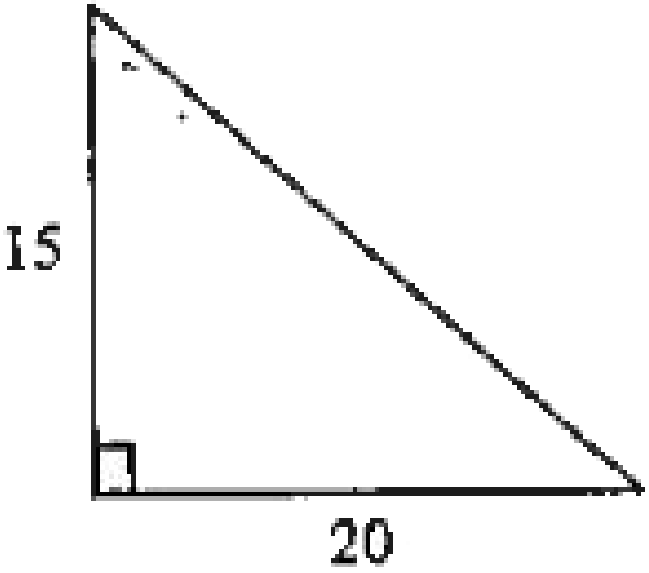
2. Find the length of the unknown side is each of following figures



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3. Which of the following can be the sides of a right triangle ?

4cm, 5cm, 7cm

In the case of right-angled triangles, identify the right angles

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4. Which of the following can be the sides of a right triangle ?

1.5cm, 2cm, 2.5cm

In the case of right-angled triangles, identify the right angles

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5. Which of the following can be the sides of a right triangle? In case of right angled triangle, identify the right angles.

2cm, 2cm, 5cm

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6. Find the area and the perimeter of the rectangle whose length is 15cm and the length of one diagonal is 17cm.

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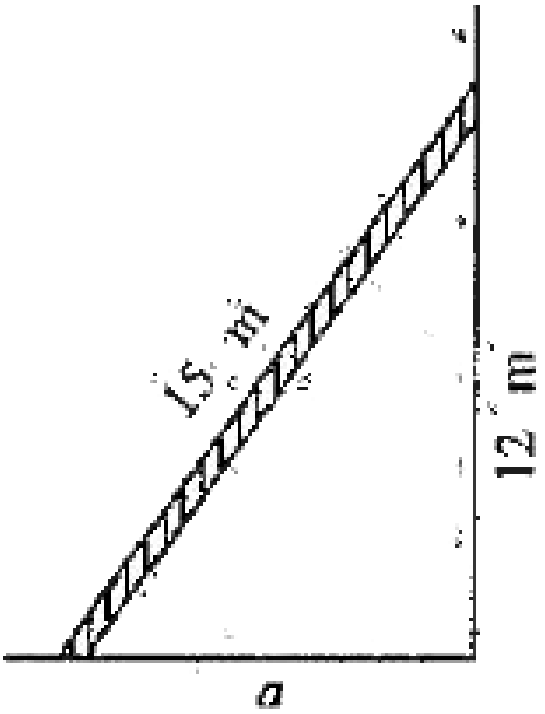
7. A 15m long ladder reached a window 12m high from the ground on placing it against a wall at a distance, find the distance of the foot

of the ladder from the wall,



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8. The sides of a rhombus is 5cm. If the length of one of the diagonals of the rhombus is 8cm,

then find the length of the other diagonal.

9. A right triangle is isosceles.If the square of the hypotenuse is 50m, what is length of each of its sides?

10. ΔABC is a triangle right angled at C if AC= 8cm and BC=6 cm, find AB.

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11. State whether the following triplets are pythagorean or not

(5, 7, 12)

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12. State whether the following triplets are pythagorean or not

(3,4,5)

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13. State whether the following triplets are pythagorean or not

(8, 9,10)

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14. State whether the following triplets are pythagorean or not

(5, 12, 13)

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Exercise 3 Multiple Choice Questions

1. In a ΔABC, if $\angle A = 40^\circ$ and $\angle B = 55^\circ$ then $\angle C$ is

A. 75°

B. 80°

C. 95°

D. 85°

Answer: D

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2. If the angles of a triangle are $35^\circ, 35^\circ$ and 110°, then it is

A. an isosceles triangle

B. an equlateral triangle

C. a scalene triangle

D. right angled triangle

Answer: A

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3. A triangle can have two

A. right angles

B. Obtuse angles

C. acute angles

D. straight angles.

Answer: C

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4. A triangle whose angles measure $35^\circ, 55^\circ$ and 90° is

A. acute angled

B. right angled

C. obtuse angled

D. isosceles

Answer: B

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5. A triangle is not possible whose angles measure

A. $40^\circ, 65^\circ, 75^\circ$

B. $50^\circ, 56^\circ, 74^\circ$

C. $72^\circ, 63^\circ, 45^\circ$

D. $67^\circ, 42^\circ, 81^\circ$

Answer: D

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6. A triangle is not possible with sides of length (in cm)

A. 6,4,10

B. 5,3,7

C. 7,8,9

D. 3.6, 5.4, 8

Answer: A

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7. In a right angled triangle, the length of two legs are 6cm and 8cm. The length of the hypotenuse is

A. 14cm

B. 10cm

C. 11cm

D. 12cm

Answer: B

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Exercise 4

1. Which of the following can be the sides of a triangle?

8cm, 10cm, 18cm

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2. Which of the following can be the sides of a triangle?

6cm, 4cm, 8cm

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3. Which of the following can be the sides of a triangle?

35cm,38cm, 40cm

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4. Which of the following can be the sides of a triangle?

3cm, 4cm, 10cm

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5. A point O is in interior of a ΔABC use symbols $>, <$ or $=$ to make the following statements true.

$OA + OB \square AB$

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6. A point O is in interior of a ΔABC use symbols $>, <$ or $=$ to make the following statements true.

$OB + OC \square BC$

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7. A point O is in interior of a ΔABC use symbols $>, <$ or $=$ to make the following statements true.

$OA + OC \square AC$

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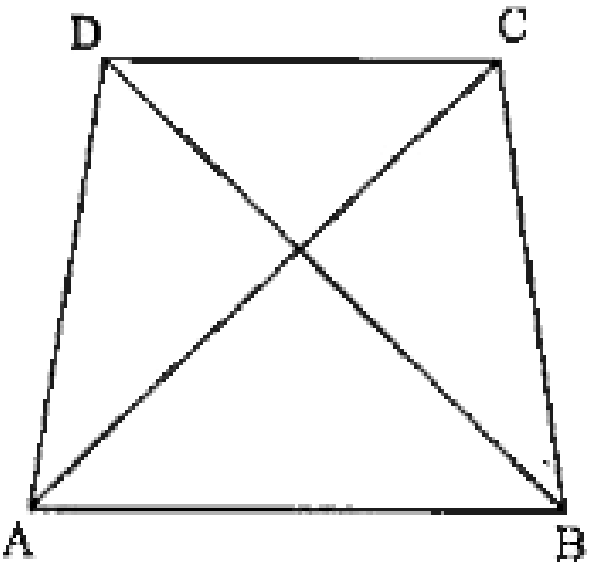
8. ABCD is a quadrilateral. Is $AB + BC + CD + DA > AC + BD$?



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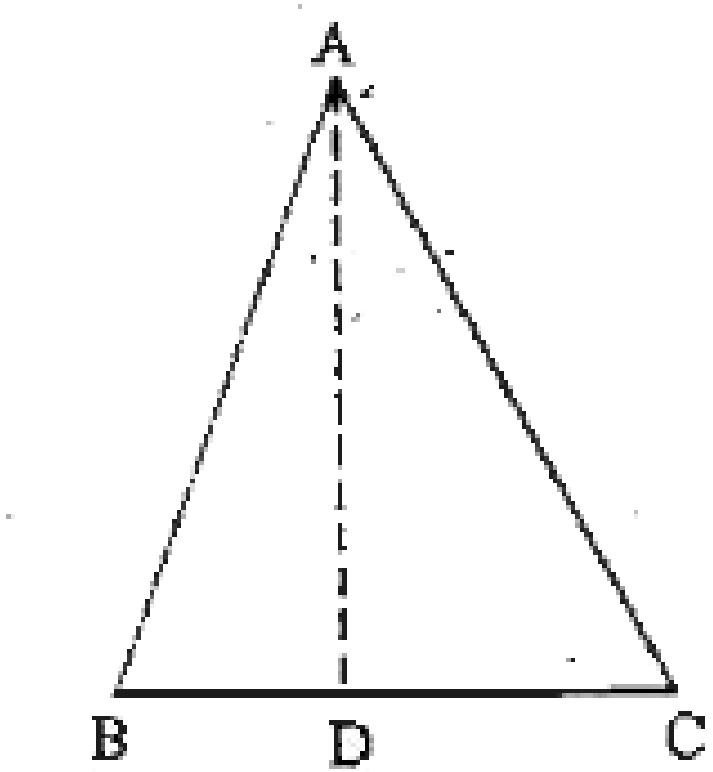
9. AD is a median of ΔABC. Is $AB + BC + CA > 2AD$?



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10. The length of two sies of a triangle are 4cm and 6cm. Between what two measure should

the length of the third side fall?

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Other Important Questions Multiple Choice Questions

1. How many parts a triangle have?

A. 1

B. 2

C. 4

D. 6

Answer: D

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2. How many vertices a triangle have?

A. 1

B. 2

C. 3

D. 4

Answer: C

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3. How many medians can a triangle have?

A. 4

B. 3

C. 2

D. 1

Answer: B

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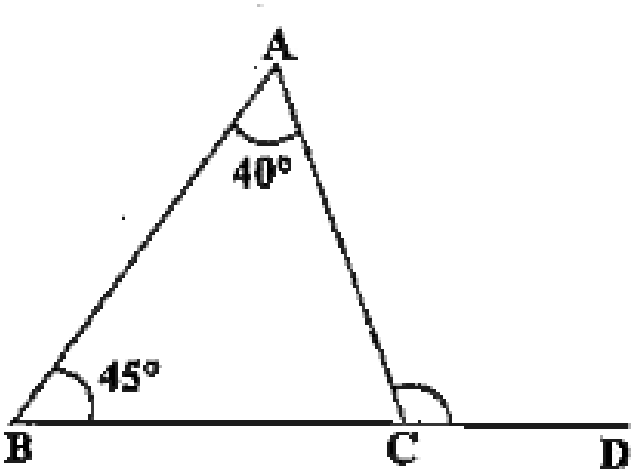
4.



What is measure of ΔACD ?

A. 40°

B. 45°

C. 85°

D. 5°

Answer: C

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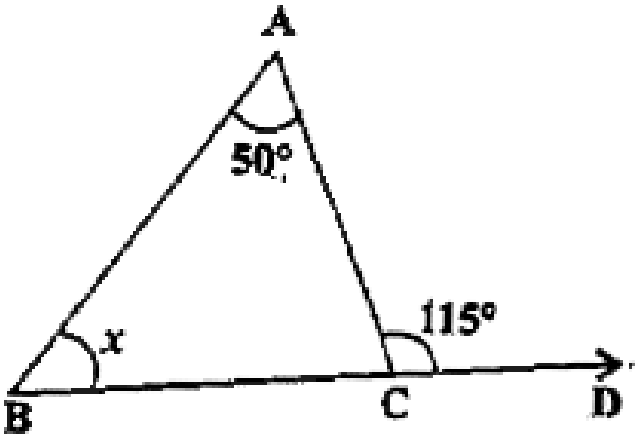
5.



What is value of x?

A. 50°

B. 115°

C. 165°

D. 65°

Answer: D

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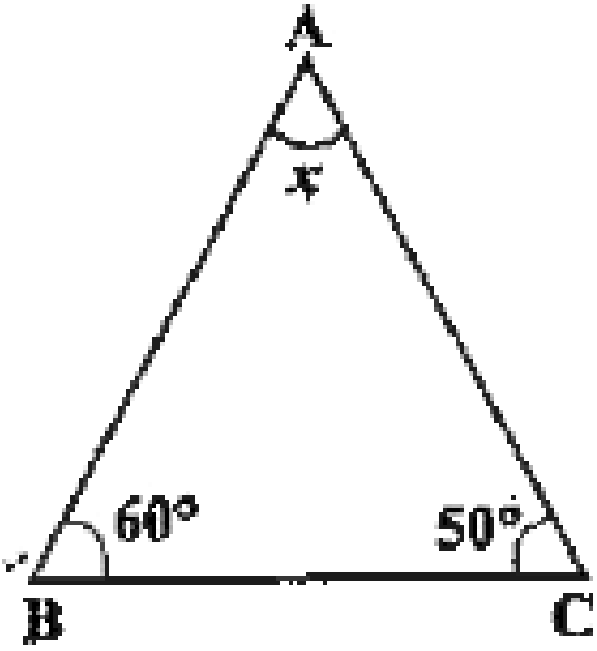
6.



The value of x is

A. 40°

B. 60°

C. 70°

D. 80°

Answer: C

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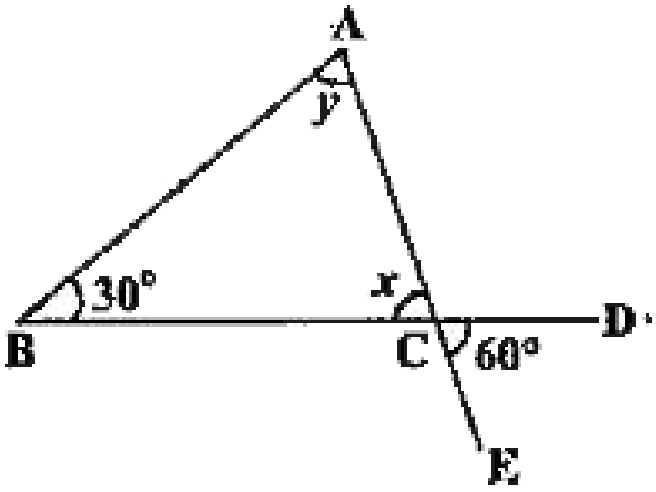
7.



The value of x is

A. 30°

B. 50°

C. 60°

D. 90°

Answer: C

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8. Which of the following statement is true?

A. A triangle can have two angles measuring right angle each

B. A triangle can have two obtuse angles

C. A triangle can have two acute angles.

D. A triangle can have all the three angles greater than 60°

Answer: C

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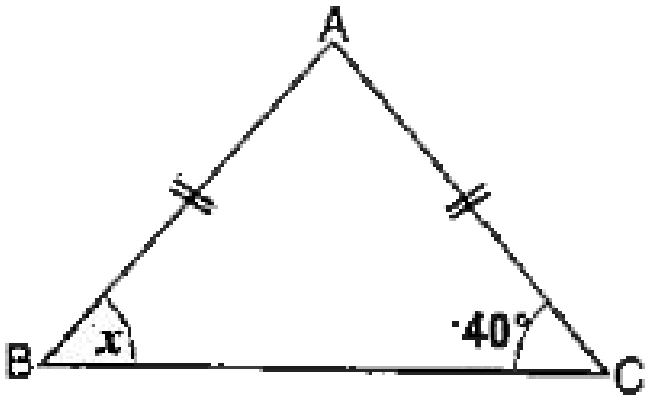
9.



Value of x in fig

A. 80°

B. 40°

C. 140°

D. 50°

Answer: B

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10. In an isosceles triangle angles opposite to equal sides are .....

A. Acute angle

B. Obtuse angles

C. Equal

D. Right angle

Answer: C

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11. The sum of the lengths of two sides of a triangle is .....than the length of the third side.

A. smaller

B. Greater

C. Equal

D. None of these

Answer: B

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12. In ΔPQR, side opposite to $\angle Q$ is ....

A. QR

B. PQ

C. PR

D. None of these

Answer: C

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13. What is the sum of three angles of a triangle?

A. 80°

B. 90°

C. 180°

D. 360°

Answer: C

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14. If one angle of a triangle is right angle then sum of other two angles will be

A. 110°

B. 80°

C. 100°

D. 90°

Answer: D

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15. On which type of triangle Pythagoras property can be applied?

A. Acute angled triangle

B. Obtuse angled triangle

C. Right angled triangle

D. None of these

Answer: C

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Other Important Questions Fill In The Blanks

1. A triangle in which all the sides are equal in length is an .....triangle.

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2. Line segment joining the vertex of a triangle to the mid point of opposite side is known as .....

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3. An .....of a triangle is equal to the sum of its opposite interior angles.

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4. Sum of the angles of a triangle is .....

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5. In a right triangle, the square of .....equal to the sum of squares of its remaining two sides.

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6. The sum of the lengths of two sides of a triangle is .....than the length of the third side.

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7. The point of concurrence of the medians of a triangle is called .....

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8. The point of intersection of the altitudes of a triangle is called .....

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Other Important Questions True Or False

1. All the altitudes of an obtuse triangle lie inside the triangle

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2. All the altitudes of an equilateral triangle are of equal length.

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3. Prove that if one angle of a triangle is equal to the sum of the other two angles, the triangle is right angled.

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4. 20cm, 12cm, 6cm can be sides of a triangle

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5. Using vectors, show that the medians of a triangle are concurrent.

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6. A triangle can have two right angles.

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