MATHS

BOOKS - RS AGGARWAL MATHS (HINGLISH)

TRIANGLES

Illustrative Examples

1. Find the angles of a triangle which are in the ratio 2 :3 : 4.

A. $20^\circ, 60^\circ$ and 90°

B. $40^\circ, 60^\circ$ and 80°

C. $30^\circ, 50^\circ$ and 80°

D. $10^\circ, 60^\circ$ and 90°

Answer: B

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2. In a Δ ABC, if $2\angle A = 3\angle B = 6\angle C$ then calculate $\angle A$, $\angle B$ and $\angle C$.

A. $\angle A = 40^\circ, \angle B = 60^\circ$ and $\angle C = 30^\circ$

B. $\angle A = 60^\circ, \angle B = 60^\circ$ and $\angle C = 30^\circ$

C. $\angle A = 90^\circ, \angle B = 60^\circ$ and $\angle C = 30^\circ$

D. $\angle A = 90^\circ, \angle B = 90^\circ$ and $\angle C = 30^\circ$

Answer: C

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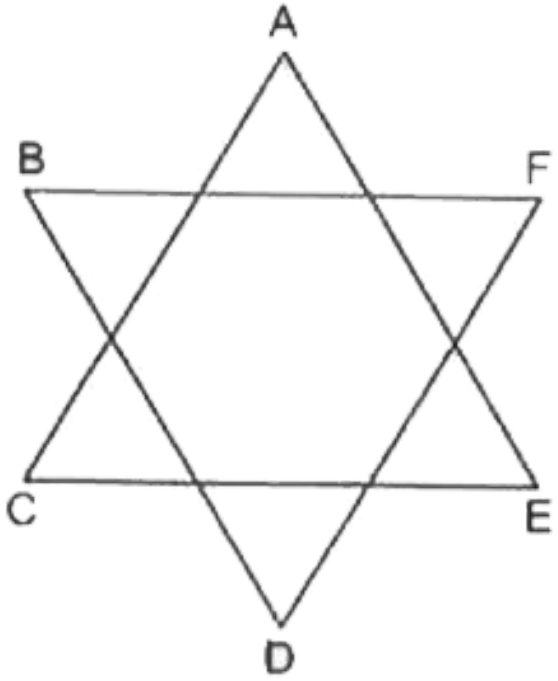
3. The adjoining figure has been obtained by using two triangles. Prove that

$$\angle A + B + \angle C + \angle D + \angle E + \angle F = 360^\circ$$



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Exercise 16 A

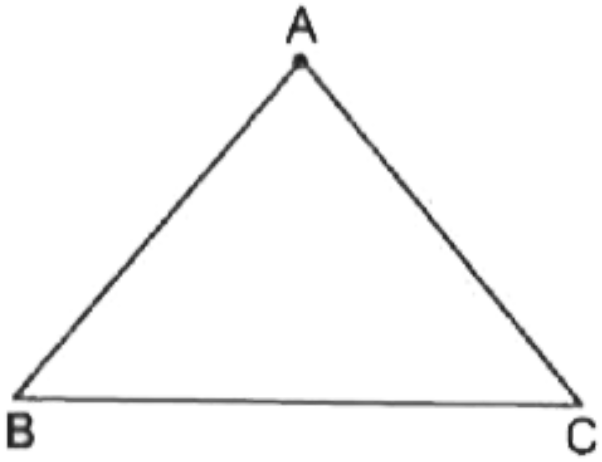
1. Take three noncollinear points A, B and C on a page of your notebook. Join AB, BC and CA. What figure do you get?

a. the side opposite to $\angle C$

b. the angle opposite to side BC.

c. the vertex opposite to side CA.

d. the side opposite to vertex B.



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2. The measures of two angles of a triangle are 72° and 58°. Find the measure of the third angle.

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3. The angles of a triangle are in the ratio 1:3:5. Find the measure of each of the angles.

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4. One of the acute angles of a right triangle is 50°. Find the other acute angle.

A. 40°

B. 50°

C. 60°

D. 70°

Answer: A

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5. One of the angles of a triangle is 110° and the other two angles are equal. What is the measure of each of these equal angles?

A. 37°

B. 35°

C. 70°

D. 75°

Answer: B

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6. If one angle of a triangle is equal to the sum of other two, show that the triangle is a right triangle.

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7. In a ABC, if $3\angle A = 4\angle B = 6\angle C$, calculate the angles.

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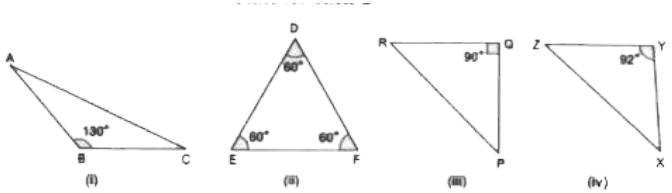
8. Look at the figure given below. State triangle whether it is acute, right or obtuse.



a.

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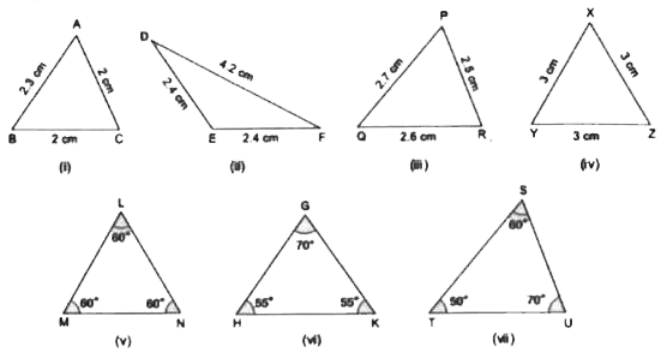
9. In the given figure. State triangle whether it is scalene, isosceles or equilateral.

a. 

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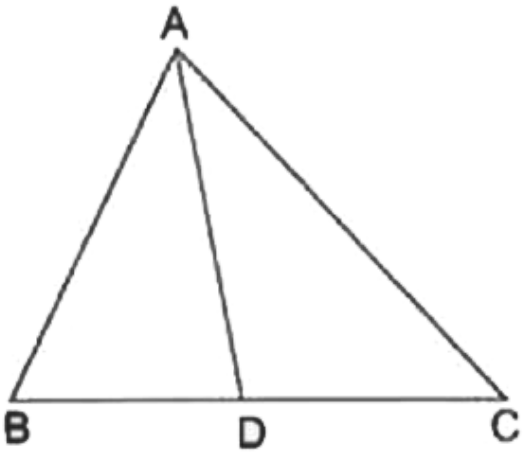
10. Draw a Δ ABC. Take a point D on BC. Join AD

How many triangles do you get? Name them.



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11. Can a triangle have: Two right angles? (ii) Two obtuse angles? Two acute angles (iv) All angles more than 60^0 ? All angles less than 60^0 ? (vi) All angles equal to 60^0

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12. A triangle has ..... sides, ... angles and ..... vertices.

A. $1, 2, 3$

B. $1, 2, 2$

C. $3, 3, 3$

D. $3, 3, 1$

Answer: C

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13. The sum of the angles of a triangle is .....

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14. The sides of a scalene triangle are of .....

lengths.

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15. Each angle of an equilateral triangle measures .....

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16. The angles opposite to equal sides of an isosceles triangle are .....

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17. The sum of the lengths of the sides of a triangle is called its .....

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Exercise 16 B Objective Questions

1. Mark against the correct answer:

How many parts does a triangle have?

A. 2

B. 3

C. 6

D. 9

Answer: C

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2. Mark against the correct answer:

With the angles given below, in which case the construction of triangle is possible?

A. $30^\circ, 60^\circ, 70^\circ$

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

C. $40^\circ, 80^\circ, 65^\circ$

D. $72^\circ, 28^\circ, 90^\circ$

Answer: B

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3. Mark against the correct answer:

The angles of a triangle are in the ratio 2 : 3:4.

The largest angle is

A. 60°

B. 80°

C. 76°

D. 84°

Answer: B

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4. Mark against the correct answer:

The two angles of a triangle are complementary. The third angle is

A. 60°

B. 45°

C. 36°

D. 90°

Answer: D

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5. Mark against the correct answer:

One of the base angles of an isosceles triangle is 70° The vertical angle is

A. 60°

B. 80°

C. 40°

D. 35°

Answer: C

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6. Mark against the correct answer:

A triangle having sides of different lengths is called

A. an isosceles triangle

B. an equilateral triangle

C. a scalene triangle

D. a right triangle

Answer: C

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7. Mark against the correct answer:

In an isosceles Δ ABC, the bisectors of $\angle B$ and

$\angle C$ meet at a point O. If $\angle A = 40^\circ$, then $\angle BOC = ?$

A. 110°

B. 70°

C. 130°

D. 150°

Answer: A

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8. Mark against the correct answer:

The sides of a triangle are in the ratio 3: 2: 5 and its perimeter is 30 cm. The length of the longest side is

A. 20 cm

B. 15 cm

C. 10 cm

D. 12 cm

Answer: B

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9. Mark against the correct answer:

Two angles of a triangle measure 30° and 25° respectively. The measure of the third angle is

A. 35°

B. 45°

C. 65°

D. 125°

Answer: D

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10. Mark against the correct answer:

Each angle of an equilateral triangle measures

A. 30°

B. 45°

C. 60°

D. 80°

Answer: C

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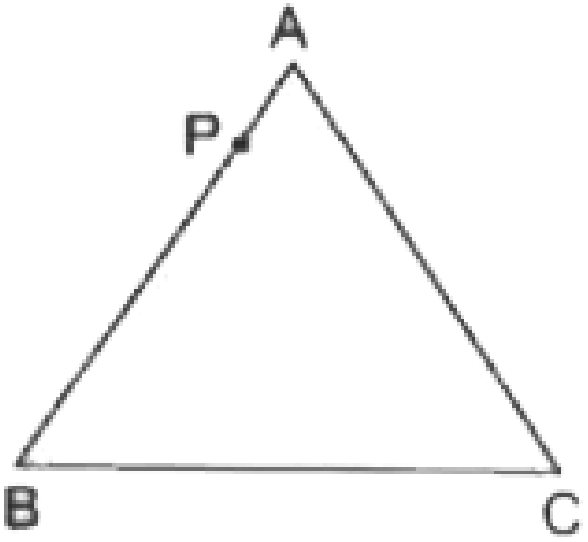
11. Mark against the correct answer:

In the adjoining figure, the point P lies



A. in the interior of Δ ABC

B. in the exterior of Δ ABC

C. on Δ ABC

D. outside Δ ABC

Answer: C

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