MATHS
CLASS X
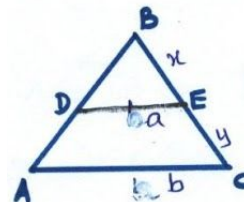**4. Geometry**

1. If triangle *PQR* is similar to triangle *LMN* such that $4PQ = LM$ and $QR = 6cm$ then *MN* is equal to

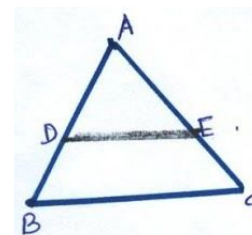   (1) 12 cm   (2) 24 cm   (3) 10 cm   (4) 36 cm

2. In the given figure $DE \parallel AC$ which of the following is true.

   (1) $x = \dfrac{ay}{b+a}$ (2) $x = \dfrac{a+b}{ay}$ (3) $x = \dfrac{ay}{b-a}$ (4) $\dfrac{x}{y} = \dfrac{a}{b}$

3. *S* and *T* are points on sides *PQ* and *PR* respectively of ΔPQR . If $PS = 3cm$, $SQ = 6cm$, $PT = 5cm$ and $TR = 10cm$ then *QR*

   (1) $4ST$ (2) $5ST$ (3) $3ST$ (4) $3QR$

4. In figure $DE \parallel BC$, if $BD = x - 3$, $BA = 2x$, $CE = x - 2$ and $AC = 2x + 3$. Find the value of x .

   (1) 3   (2) 6   (3) 9   (4) 12

5. The ratio of the areas of two similar triangles is equal to

   (1) The ratio of their corresponding sides
   (2) The cube of the ratio of their corresponding sides
   (3) The ratio of their corresponding altitudes
   (4) The square of the ratio of their corresponding sides

6. If *ABC* is a triangle and *AD* bisects $\angle A$, $AB = 4cm$, $BD = 6cm$, $DC = 8cm$ then the value of *AC* is

   (1) $\dfrac{16}{3}cm$ (2) $\dfrac{32}{3}cm$ (3) $\dfrac{3}{16}cm$ (4) $\dfrac{1}{2}cm$

7. In a triangle, the internal bisector of an angle bisects the opposite side. Find the nature of the triangle.

   (1) right angle   (2) equilateral
   (3) scalene   (4) isosceles

8. The height of an equilateral tria $\dfrac{\sqrt{3}}{4}a$ ngle of side a is

(1) $\dfrac{a}{2}$ (2) $\sqrt{3}a$ (3) $\dfrac{\sqrt{3}}{2}a$ (4)

9. The perimeter of a right triangle is 40 cm. Its hypotenuse is 15cm, then the area of the triangle is

(1) $100cm^2$ (2) $200cm^2$ (3) $160cm^2$ (4) $225cm^2$

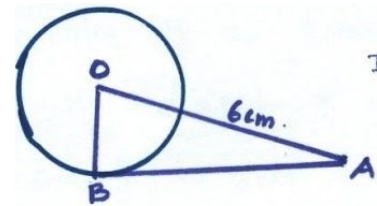10.   A line which intersects a circle at two distinct points is called
(1) Point of contact (2) secant (3) diameter (4) tangent

11.   If the angle between two radii of a circle is $130°$, the angle between the tangents at the end of the radii is

(1) $50°$ (2) $90°$ (3) $40°$ (4) $70°$

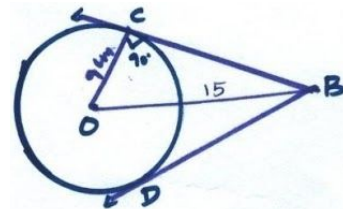12.   In figure $\angle OAB = 60°$ and $OA = 6\ cm$ then radius of the circle is

(1) $\dfrac{3}{2}\sqrt{3}cm$ (2) $2cm$ (3) $3\sqrt{3}cm$ (4) $2\sqrt{3}cm$

13.   In the given figure if $OC = 9cm$ and

$OB = 15cm$ then $OB + BD$ is equal to
(1) $23cm$ (2) $24cm$ (3) $27cm$ (4) $30cm$

14.   Two concentric circles of radii a and b where $a > b$ are given. The length of the chord of the larger circle which touches the smaller circle is

(1) $\sqrt{a^2 - b^2}$ (2) $2\sqrt{a^2 - b^2}$ (3) $\sqrt{a^2 + b^2}$ (4) $2\sqrt{a^2 + b^2}$

15.   Three circles are drawn with the vertices of a triangle as centres such that each circle touches the other two if the sides of the triangle are $2cm$, $3cm$ and $4cm$. find the diameter of the smallest circle.
(1) $1cm$ (2) $3cm$ (3) $5cm$ (4) $4cm$