Exercise

1. Which of the following are true and which are false?

(i) Bisection means to divide into two equal parts. **(True)**

(ii) Right bisection of line segment means to draw perpendicular which passes through the mid-point. **(True)**

(iii) Any point on the right bisector of a line segment is not equidistant from its end points. **(False)**

(iv) Any point equidistant from the end points of a line segment is on the right bisector of it. **(True)**

(v) The right bisectors of the sides of a triangle are not concurrent. **(False)**

(vi) The bisectors of the angles of a triangle are concurrent. **(True)**

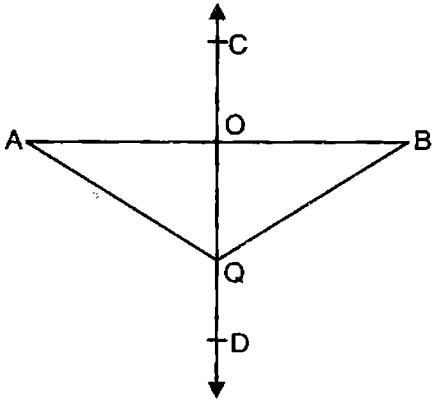
(vii) Any point on the bisector of an angle is not equidistant from its arms **(False)**

(viii) Any point inside an angle, equidistant from its arms, is on the bisector of it. **(True)**

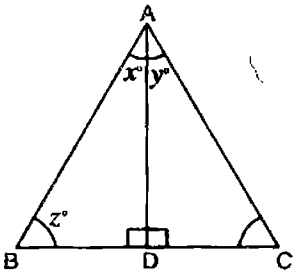
2. If $\overleftrightarrow{CD}$ is right bisector of line segment $\overline{AB}$, then:

(i) $m\overline{OA} = \ldots\ldots m\overline{OB} \ldots\ldots$

(ii) $m\overline{AQ} = \ldots\ldots m\overline{BQ} \ldots\ldots$



3. The given triangle ABC is equilateral triangle and $\overline{AD}$ is bisector of angle A, then find the values of unknowns x^o, y^o and z^o.



$\because$ ABC is an equilateral triangle.

Its each angle $= 60^o$

$\therefore \quad z = 60^o$

$x + y = 60^o$

But $y = x$

$x + x = 60^o$

$2x = 60^o$

$x = \frac{60^o}{2}$

$x = 30^o$

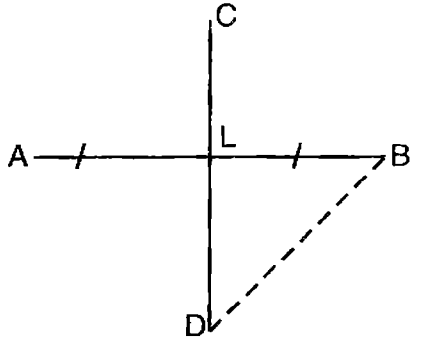
$\therefore \quad y = 30^o$

Hence $z = 60^o$

4. $\overline{CD}$ is right bisector of the line segment $\overline{AB}$.

(i) if $m\overline{AB} = 6cm$, then find the $m\overline{AL}$ and $m\overline{LB}$.

(ii) If $m\overline{BD} = 4cm$, then find $m\overline{AD}$.



Given CD is a right bisector on the line segment AB.

To find (i) $m\overline{AL}, m\overline{LB}$ when $m\overline{AB}=6cm$

(ii) $m\overline{AD}$ when $m\overline{BD}=4cm$

Construction Join B with D.

Proof:

Statements	Reasons
(i) $m\overline{AL} = m\overline{LB}$	$\overline{CD}$ is a right bisector of $\overline{AB}$
$m\overline{AL} = \frac{1}{2}m\overline{AB}$	
$= \frac{1}{2}(6)$	$\because$ $m\overline{AB} = 6cm$
$= 3cm$	
$m\overline{LB} = m\overline{AL}$	
$= 3cm.$	
(ii) $m\overline{AD} = m\overline{BD}$	$\because$ $\overline{LD}$ is a right bisector of $\overline{AB}$
$\therefore$ $m\overline{AD} = 4cm$	$\because$ $m\overline{BD} = 4cm$

Objective

1. Bisection means to divide into ___ equal parts
(a) Two (b) Three
(c) Four (d) Five

2. ____ o f line segment means to draw perpendicular which passes through the mid-point of line segment.
(a) Right bisection (b) Bisection
(c) Congruent (d) mid-point

3. Any point on the _____ of a line segment is equidistant from its end points:
(a) Right bisector (b) Angle bisector
(c) Median (d) Altitude

4. Any point equidistant from the end points of line segment is on the _____ of it:
(a) Right bisector (b) Angle bisector
(c) Median (d) Altitude

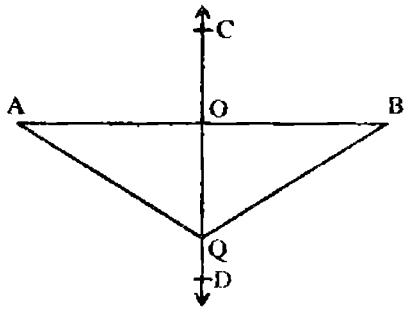
5. The bisectors of the angles of a triangle are:
(a) Concurrent (b) Congruent
(c) Parallel (d) None

6. Bisection of an angle means to draw a ray to divide the given angle into ___ equal parts:
(a) Four (b) Three
(c) Two (d) Five

7. If $\overleftrightarrow{CD}$ is right bisector of line segment $\overline{AB}$ then: (i) $m\overline{OA} =$

(a) $m\overline{OQ}$ (b) $m\overline{OB}$

(c) $m\overline{AQ}$ (d) $m\overline{BQ}$



8. If $\overleftrightarrow{CD}$ is right bisector of line segment $\overline{AB}$, then $m\overline{AQ}$ =____

(a) $m\overline{OA}$ (b) $m\overline{OB}$

(c) $m\overline{BQ}$ (d) $m\overline{OD}$

9. The right bisector s of the sides of an acute triangle intersects each other ___ the triangle.

(a) Inside (b) Outside

(c) Midpoint (d) None

10. The right bisectors of the sides of a right triangle intersect each other on the ___

(a) Vertex (b) Midpoint

(c) Hypotenuse (d) None

11. The right bisectors of the sides of an obtuse triangle intersect each other ___ the triangle.

(a) Outside (b) Inside

(c) Midpoint (d) None

ANSWER KEY

1.	a	**2.**	a	**3.**	a	**4.**	a	**5.**	a
6.	c	**7.**	b	**8.**	c	**9.**	a	**10.**	c
11.	a								