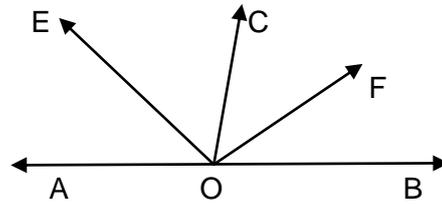


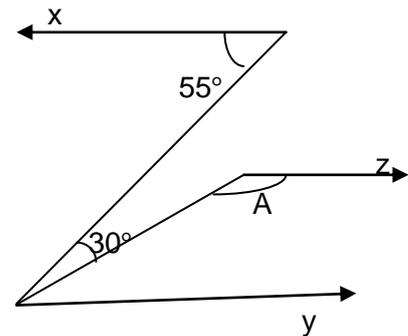
**BHARATIYA VIDYA BHAVAN'S V. M. PUBLIC SCHOOL, VADODARA**

**CLASS – IX    SUBJECT – MATHEMATICS    CHAPTER – LINES AND ANGLES**

1. Prove that the internal and external bisectors of an angle make a right angle with each other.
2. If one of the angles formed by two mutually intersecting lines is a right angle, then prove that each of the three remaining angles is a right angle.
3. If a ray stands on a line such that difference of the adjacent angles so formed is  $30^\circ$ , then find the measure of each adjacent angle.
4. Ray OE bisects AOB and ray OF is opposite to ray OE. Show that  $\angle FOB = \angle FOA$ .
5. In the given figure, OE and OF bisect  $\angle AOC$  and  $\angle COB$  respectively and  $OE \perp OF$ . Show that points A, O, B are collinear.



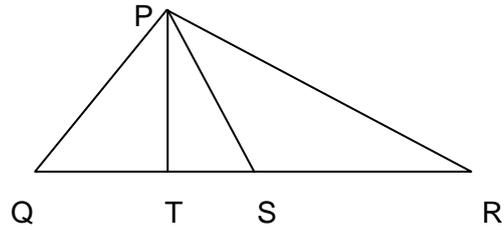
6. If in the given figure, ray  $x \parallel y \parallel z$ , then find the measure of  $\angle A$ .



7. Prove that the two lines that are respectively perpendicular to two parallel lines are parallel to each other.
8. If a transversal intersects two parallel lines, then prove that the bisector of two pairs of interior angles form a rectangle.
9. In ABC, if the bisectors of  $\angle ABC$  and  $\angle BCA$  intersect each other at O, then prove that  $\angle BOC = 90^\circ + \frac{1}{2}\angle A$ .
10. AP and BP are the bisectors of two adjacent angles A and B of the quadrilateral ABCD. Then, prove that  $2\angle APB = \angle C + \angle D$ .
11. AM and DM are the bisectors of  $\angle A$  and  $\angle D$  respectively of quadrilateral ABCD. If  $\angle B = 50^\circ$  and  $\angle D = 100^\circ$ , find the measure of  $\angle AMD$ .
12. If the angles of a triangle are in the ratio  $2 : 3 : 4$ , then find the values of the biggest and the smallest angle.
13. If a transversal intersects two parallel lines, prove that the bisectors of two interior angles on the same side of the transversal form right angle with one another.

14. In the given figure, PS is the bisector of  $\angle QPR$ ,  $PT \perp RQ$  and  $Q > R$ , show that

$$\angle TPS = \frac{1}{2}(\angle Q - \angle R).$$



15. In the given figure, ABC is an isosceles triangle with  $AB = AC$ , and AE is the bisector of exterior angle  $\angle CAD$ . Prove that  $AE \parallel BC$

