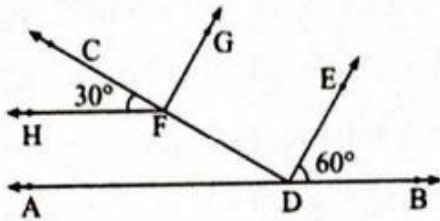# STANDARD 8$^{TH}$: CHAPTER 2
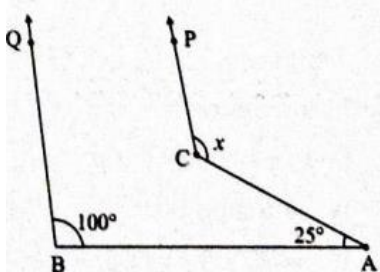
# Parallel lines & transversal

## Q1. Select the correct option.

1. If two distinct lines are intersected by a transversal, then which if the following statement is false
   a) Four pairs of corresponding angles are formed.
   b) Four pairs of alternate angles are formed.
   c) Four pairs of interior angles on the same side are formed.
   d) Two pairs of interior angles on the same side are Supplementary.

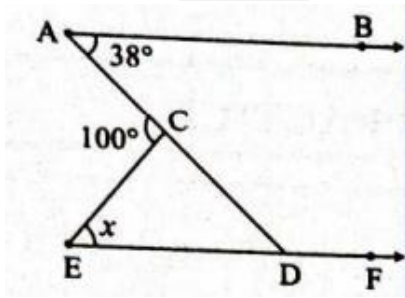2. In the figure, if $AB \parallel HF$ and $DE \parallel FG$, then the measure of $\angle FDE$ is ____.



   a) $60^0$
   b) $90^0$
   c) $30^0$
   d) $50^0$

3. In the figure, if $ray\ CP \parallel ray\ BQ$, $\angle QBA = 100^0$, $\angle CAB = 25^0$, $\angle PCA = x^0$ then value of x is



   a) $75^0$
   b) $100^0$
   c) $25^0$
   d) $125^0$

4. In the figure, if $ray\ AB$ ∥ $ray\ EF$ and with the information as shown, the value of x is_____.



   a) $90^0$
   b) $70^0$
   c) $62^0$
   d) $55^0$

5. If the transversal intersects two parallel lines such that the ratio between the interior angles on one of its sides is 3:7 then the measure of smallest interior angle is____.
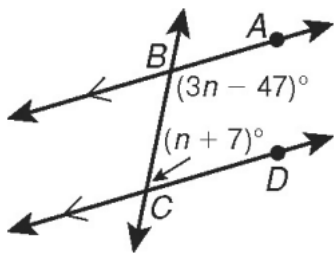
   a) $54^0$
   b) $78^0$
   c) $80^0$
   d) $126^0$

6. In the figure, $line\ l$ ∥ $line\ m, line\ p\ is\ the\ transversal$ If $r = 20^0$then find a:b (Simplest Form)
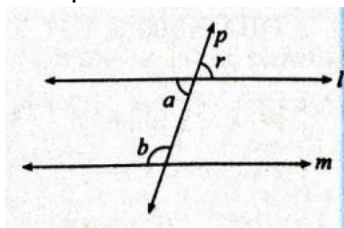


   a) $2:4$
   b) $2:16$
   c) $1:8$
   d) $3:4$

7. If two complementary angles are in ratio 13:5 then the angles are
   a) $55^0\ and\ 35^0$
   b) $75^0\ and\ 15^0$
   c) $70^0\ and\ 20^0$
   d) $65^0\ and\ 25^0$

8. For what value of x point B lies on AC if $AB = x + 3, BC = 2x$ and $AC = 4x - 5$
   a) 5
   b) 3
   c) 2
   d) 4

9. Find $\angle ABC$
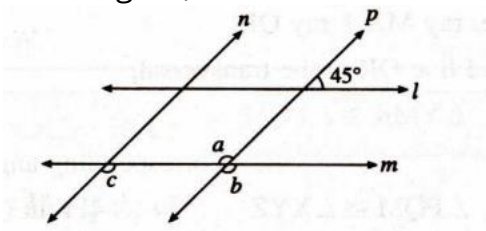


   a) $78^0$
   b) $120^0$
   c) $108^0$
   d) $118^0$

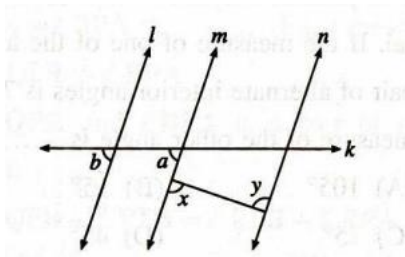10. A pair of Interior angles lies_____.

   a) To one side of transversal and Inside parallel lines.
   b) To the opposite sides of the transversal.
   c) To outside parallel lines.
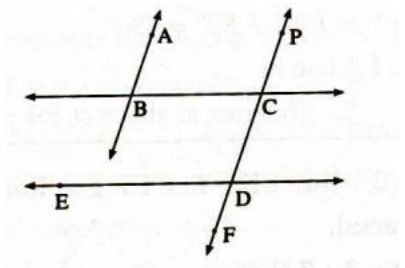   d) Inside parallel lines and opposite sides of transversal.

## Q2. Solve the following.

1. In the figure, $line\ l\ \parallel\ line\ m\ and\ line\ n \parallel line\ p$ . Find $\angle a, \angle b, \angle c$

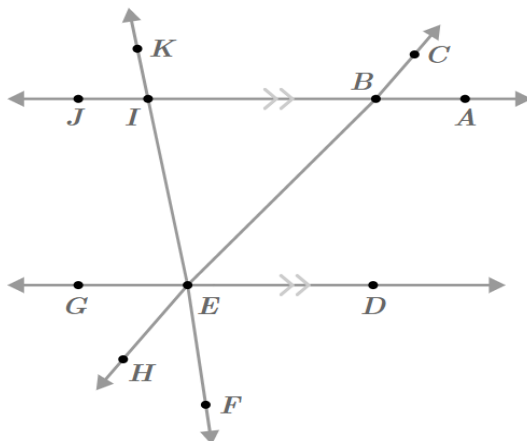2. In the following figure $\angle a \cong \angle b$ and $\angle x \cong \angle y$. Prove that, *line l* ‖ *line n*

3. In the figure, *if line AB ‖ line CF and line BC ‖ line AD then prove that*
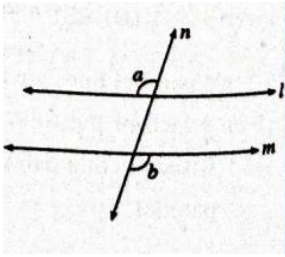   $\angle ABC = \angle FDE$

4. If the bisectors of the pair of alternate angles framed by a transversal with Two given lines are parallel then prove that the given lines are parallel.

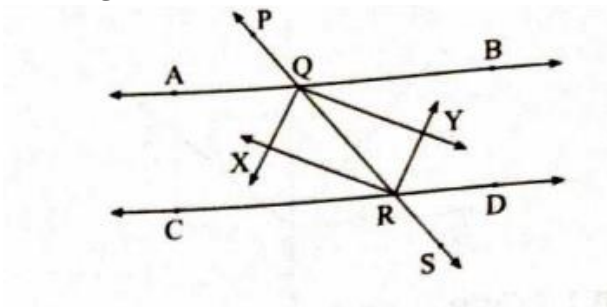5. In the diagram below, $m\angle ABC = 50^0$ and $m\angle KIJ = 80^0$
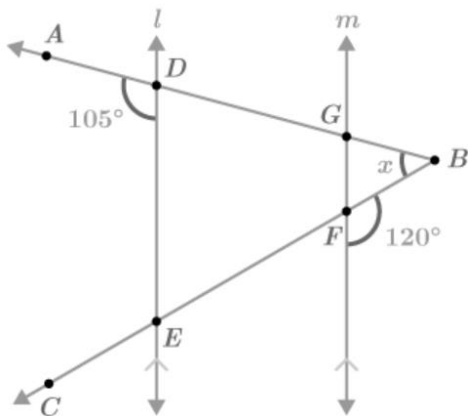
Find: $m\angle EBI, m\angle BIE, m\angle BEI, m\angle GEI$

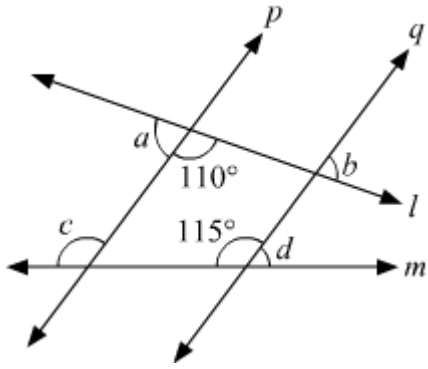6. In the following figure ∠a ≅ ∠b . Prove that, *line l* ∥ *line m*



7. In the figure line PS is transversal of parallel line AB and line CD. If ray QX, ray QY, ray RX and ray RY are angle bisectors then prove that ■$QXRY$ is a rectangle.



8. If $l$ ∥ $m$, what is the value of x?



9. In the given figure, line *p* ∥ line *q* and line *l* and line *m* are transversals Measures of some angles are shown.

Hence find the measures of ∠a, ∠b, ∠c, ∠d.

10. Prove that if two lines which are parallel are intersected by a transversal then the pair of interior angles on the same side of the transversal are supplementary.