

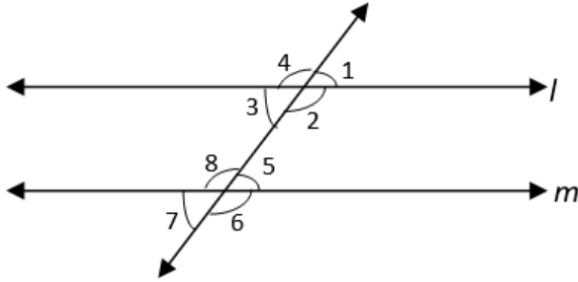


STANDARD 8TH: CHAPTER 2

Parallel lines & transversal

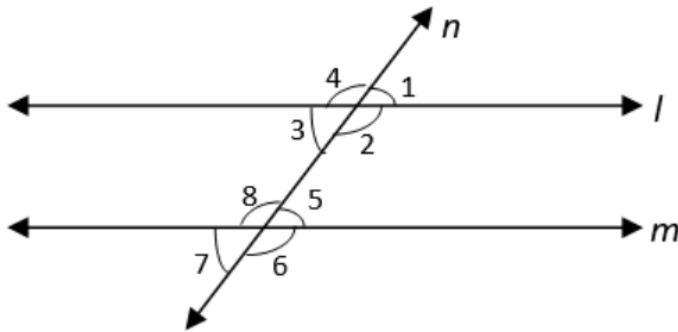
Q1. Select all the correct options.

1. Which of the following is correct if $l \parallel m$.



- a) $\angle 1 = \angle 5$
- b) $\angle 1 = \angle 3$
- c) $\angle 1 = \angle 6$
- d) $\angle 2 = \angle 3$
- e) $\angle 2 = \angle 6$

2. Find the value of $\angle 5$ and $\angle 8$ if $l \parallel m$ and $\angle 1 : \angle 2 = 2 : 7$.



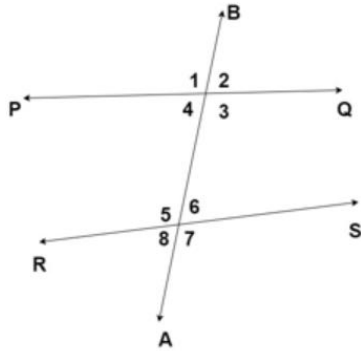
- a) $10^\circ, 70^\circ$
- b) $40^\circ, 140^\circ$
- c) $110^\circ, 70^\circ$
- d) $35^\circ, 140$

3. State True or False

“If transversal intersect two parallel lines, then alternate exterior angles formed are supplementary”

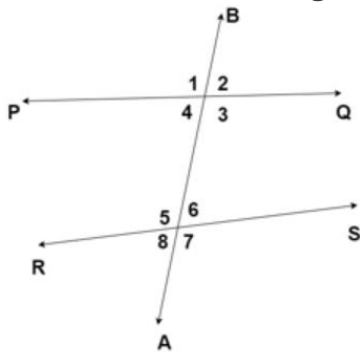
- a) False
- b) True

4. From the given diagram, which are the pair of corresponding angles?



- a) $\angle 1$ & $\angle 8$
- b) $\angle 1$ & $\angle 5$
- c) $\angle 3$ & $\angle 7$
- d) $\angle 2$ & $\angle 3$
- e) $\angle 2$ & $\angle 6$

5. From the given diagram, if a transversal intersects two parallel lines, then which of the following relation between pair of angles is true?



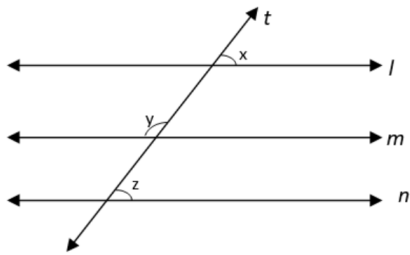
- a) $\angle 1 + \angle 4 = 180^\circ$
- b) $\angle 2 = \angle 8$
- c) $\angle 3 < \angle 6$
- d) $\angle 2 \neq \angle 6$
- e) $\angle 4 = \angle 2$

6. State True or False

“Two lines perpendicular to the same line are perpendicular to each other”

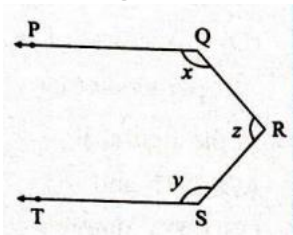
- a) True
- b) False

7. Find the value of x if $l \parallel m \parallel n$ and $y : z = 5 : 4$.



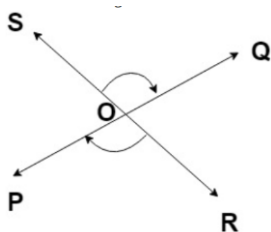
- a) 80°
- b) 40°
- c) 70°
- d) 35°

8. In the figure, if ray $QP \parallel$ ray ST and with the given information, which of the following statement is true?



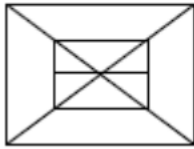
- a) $z = 180^\circ - (x + y)$
- b) $z = 360^\circ - (x - y)$
- c) $z = 180^\circ - (x - y)$
- d) $z = 360^\circ - (x + y)$

9. From the diagram shown below, what is the relation between $\angle POS$ and $\angle ROQ$?



- a) $\angle POS > \angle ROQ$
- b) $\angle POS < \angle ROQ$
- c) $\angle POS = \angle ROQ$
- d) $\angle POS = 2\angle ROQ$

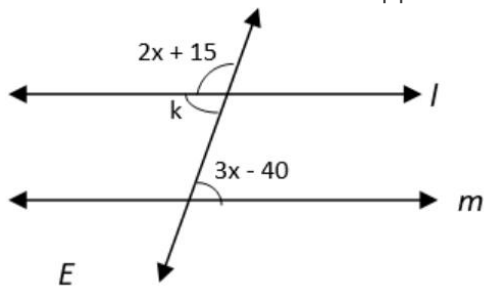
10. How many horizontal line segments are there in the given figure.



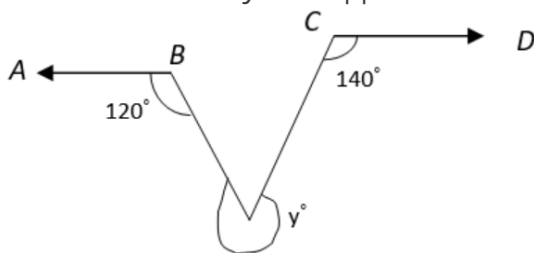
- a) 2
- b) 4
- c) 5
- d) 7

Q2. Solve the following.

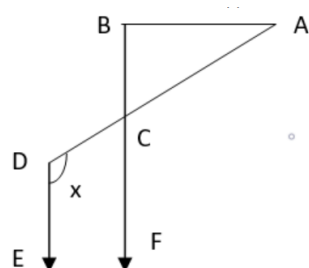
1. Find the value of k in line $l \parallel m$?



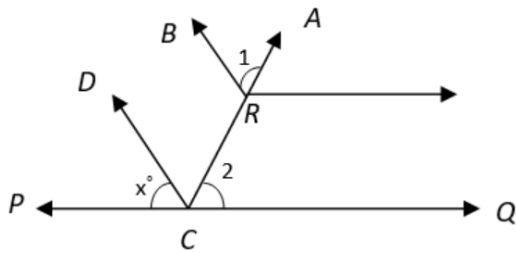
2. Find the value of y if $AB \parallel CD$.



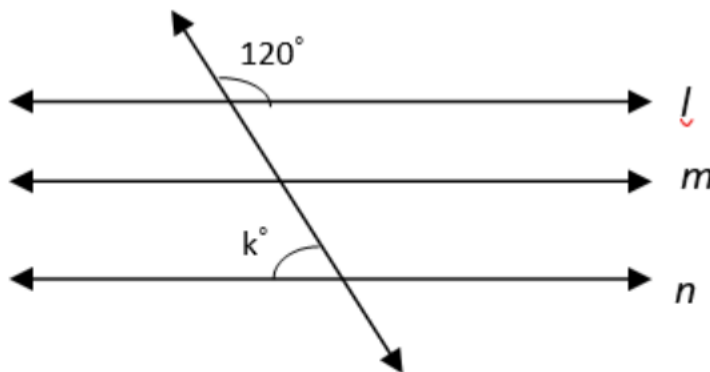
3. Find the value of x if $BF \parallel DE$, $AB \perp BF$ and $\angle BAC : \angle ACB = 2:3$



4. Find the value of x if $PQ \parallel RS$, $CD \parallel RB$, $\angle 1 : \angle 2 = 3 : 4$ and $\angle 2 = 64^\circ$.



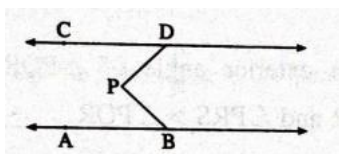
5. Find the value of k if line $l \parallel m \parallel n$.



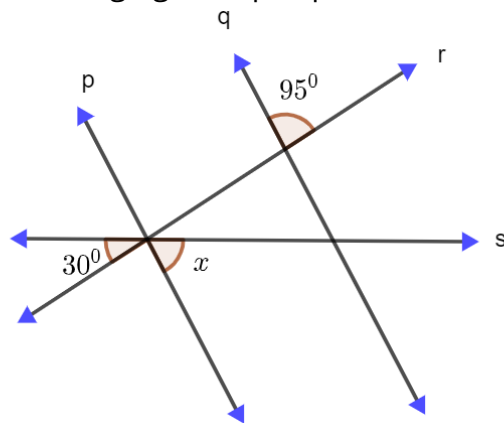
6. Ray PQ and ray PR are perpendicular to each other. Points B and A are in the interior and exterior of $\angle QPR$ respectively. Ray PB and ray PA are perpendicular to each other. Draw a figure showing all these rays and write
- A pair of complementary angles
 - A pair of supplementary angles
 - A pair of congruent angles

7. If three or more parallel lines are intersected by two transversals prove that the intercepts made by them on the transversal are proportional.

8. Lines AB and CD are parallel and P is any point as shown in the figure. Prove that $\angle ABP + \angle CDP = \angle DPB$



9. In the following figure if $p \parallel q$ then the value of x is



10. In $\triangle ABC$, a point E is on \overline{AB} with $AE = 1$ and $EB = 2$. Point D is on \overline{AC} so that $\overline{DE} \parallel \overline{BC}$ and point F is on \overline{BC} so that $\overline{EF} \parallel \overline{AC}$. What is the ratio of the area of $CDEF$ to the area of $\triangle ABC$?

