

EXERCISE – 5.5

Q. 1 Which of the following are models for perpendicular lines-

- (a) The adjacent edges of a table top.
- (b) The lines of a railway track.
- (c) The line segments forming the letter 'L'.
- (d) The letter V.

Answer:

- (a) The adjacent edges of a table top are perpendicular to each-other.
- (b) The lines of a railway track are parallel to each-other.
- (c) The line segments forming the letter 'L' are perpendicular to each-other.
- (d) It forms an acute angle as its sides are inclined at a point.

Q. 2 Let \overline{PQ} be the perpendicular to the line segment \overline{XY} .

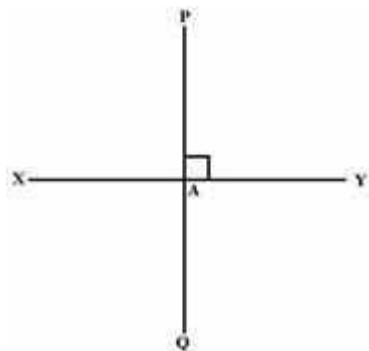
Let \overline{PQ} and \overline{XY} intersect in the point A. What is the measure of $\angle PAY$?

Answer:

Let's draw the line segment XY first,

Now draw PQ perpendicular to XY and intersecting at point A.

As PQ is a perpendicular to XY so it will form a right angle at intersecting point.



As we can see in the figure $\angle PAY$ is of 90° .

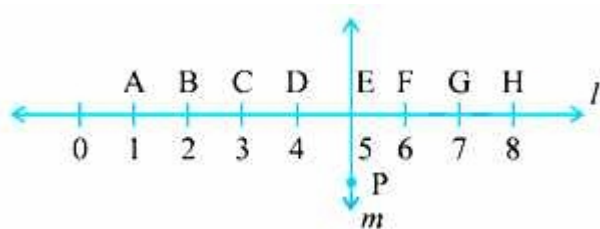
Q. 3 There are two set-squares in your geometry box. What are the measures of the angles that are formed at their corners? Do they have any angle measure that is common?

Answer:

The first one is of 90° , 45° and 45°

The second one is of 90° , 30° and 60°

Q. 4 Study the diagram. The line l is perpendicular to line m .



- (a) Is $CE = EG$?
- (b) Does PE bisect CG?
- (c) Identify any two line segments for which PE is the perpendicular bisector.
- (d) Are these true?
- (i) $AC > FG$ (ii) $CD = GH$ (iii) $BC < EH$.

Answer:

- (a) Yes $CE = EG$ as both have same distance of 2 units from the intersecting point. nee
- (b) Yes PE bisect CG as E is the mid-point of CG and PE divides the line into two equal parts which is $CE = EG$.
- (c) The two line segments can be BH and CG.

(d)

(i) $AC > FG$ – True

As length of $AC = 2$ units

Length of $FG = 1$ unit

(ii) $CD = GH$ – True

As both have same length of 1 unit.

(iii) $BC < EH$ – True

As the length of $BC = 1$ unit

Length of $EH = 3$ units