

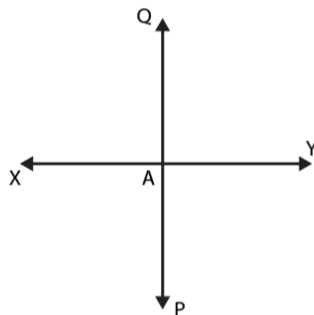
Exercise -5.5

Q1. Which of the following are models for perpendicular lines:

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

Sol. (a) Yes, the adjacent edges of a tabletop are the models of perpendicular lines.
(b) No, the lines of railway tracks are parallel to each other. So they are not a model for perpendicular lines.
(c) Yes, the two line segments of 'L' are the model for perpendicular lines.
(d) No, the two line segments of 'V' are not a model for perpendicular lines.

Q2. Let PQ be the perpendicular to the line segment XY. Let PQ and XY intersect at point A. What is the measure of $\angle PAY$?

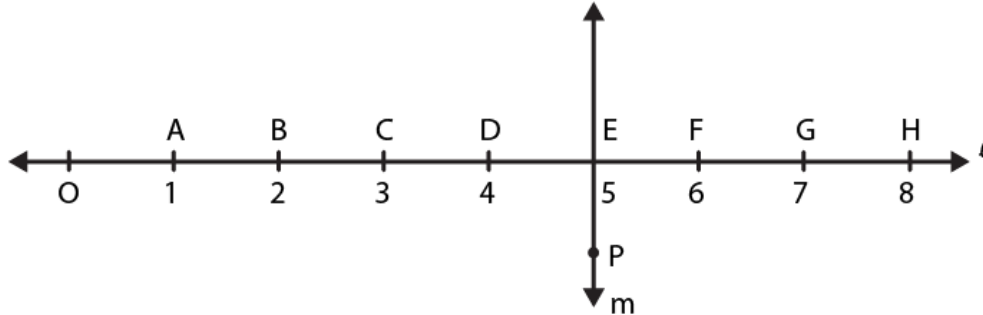


From the figure, it is clear that the measure of $\angle PAY$ is 90°

Q3. There are two set-squares in your box. What are the measures of the angles that are formed at their corners?
Do they have any angle measure that is common?

Sol. The figures of the two set-squares are given below:
The measured angles of set square (a) are 30° , 60° , and 90° .
The measured angles of set square (b) are 45° , 45° , and 90° .
Yes, they have a common angle of measure 90° .

Q3. 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) $BC < EH$

Sol. (a) Yes,
Since, $CE = 2$ units and $EG = 2$ units
Hence, $CE = EG$.

(b) Yes, PE bisects CG

(d) (i) True (ii) True (iii) True