

## Access NCERT Solutions for Class 6 Chapter 5: Understanding Elementary Shapes Exercise 5.5

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.

**Solutions:**

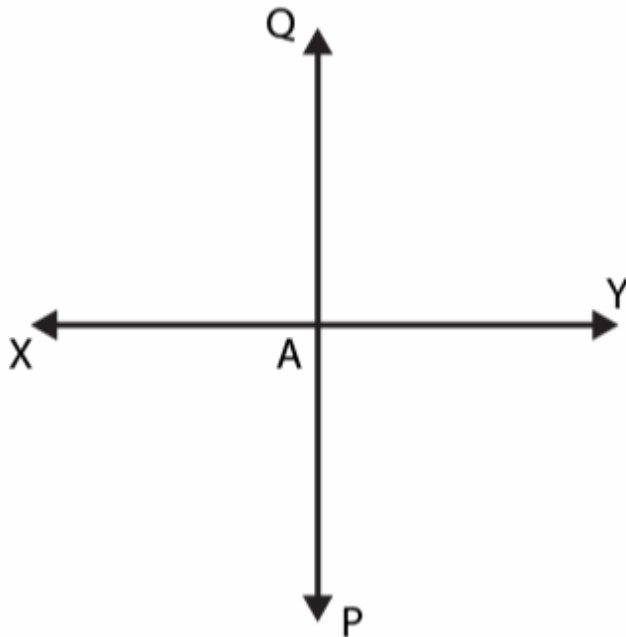
- (a) The adjacent edges of a table top are perpendicular to each other.
- (b) The lines of a railway track are parallel to each other.
- (c) The line segments forming the letter 'L' are perpendicular to each other
- (d) The sides of letter V are inclined forming an acute angle.

Therefore (a) and (c) are models for perpendicular lines.

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  $\angle PAY$ ?

**Solutions:**



From the figure it is clear that the measure of  $\angle PAY$  is  $90^\circ$

**3. 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?**

**Solutions:**

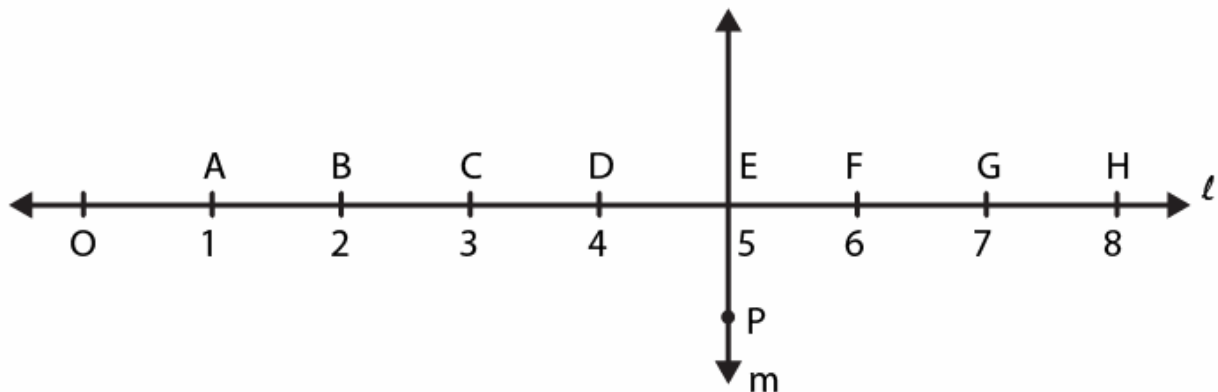
The measure of angles in one set square are  $30^\circ$ ,  $60^\circ$  and  $90^\circ$

The other set square has a measure of angles  $45^\circ$ ,  $45^\circ$  and  $90^\circ$

Yes, the angle of measure  $90^\circ$  is common in between them

**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)  $BC < EH$ .**

**Solutions:**

**(a)** Yes, since,  $CE = 2$  units and  $EG = 2$  units respectively

**(b)** Yes. Since,  $CE = EG$  as both are of 2 units. Hence PE bisect CG

**(c)**

$\overline{BH}$  and

$\overline{DF}$  are the line segments for which PE is the perpendicular bisector

**(d)** (i) True. Since  $AC = 2$  units and  $FG = 1$  unit

$\therefore AC > FG$

(ii) True because both are of 1 unit

(iii) True. Since,  $BC = 1$  unit and  $EH = 3$  units

$\therefore BC < EH$