

Question 1.

Which of the following are models for perpendicular lines?

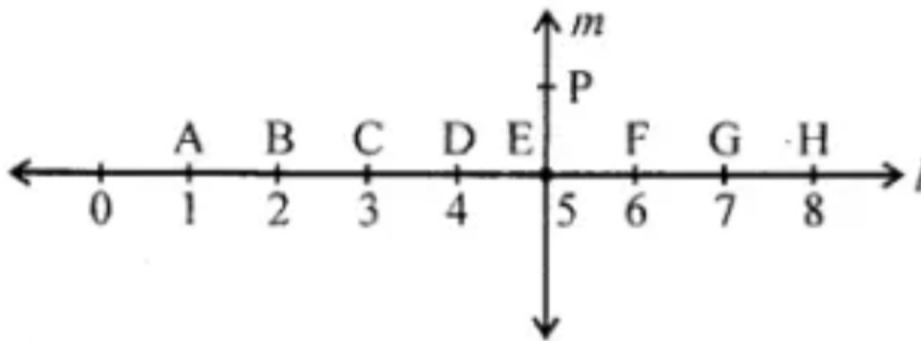
- (i) The adjacent edges of a postcard.
- (ii) the lines of a railway track.
- (iii) The line segment forming the letter 'L'.
- (iv) The adjacent edges of your Math book.
- (v) The line segments forming the letter 'V'.

Solution:

(i), (iii) and (iv) are models for perpendicular lines.

Question 2.

In the figure given below, line  $l$  is perpendicular to line  $m$ .



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

Solution:

$$(a) CE = CD + DE$$

$$= 1 + 1 = 2 \text{ units}$$

$$EG = EF + FG$$

$$= 1 + 1 = 2 \text{ units}$$

$$\therefore CE = EG \text{ (Yes)}$$

$$(b) \because CE = EG$$

$\therefore$  E is the mid point of BH

Line  $\overleftrightarrow{PE}$  bisect segment  $\overline{BH}$  (YES)

(c)  $\overline{DF}$ ,  $\overline{BH}$

(i) True

(ii) True

(iii) True