Constructions of Quadrilaterals

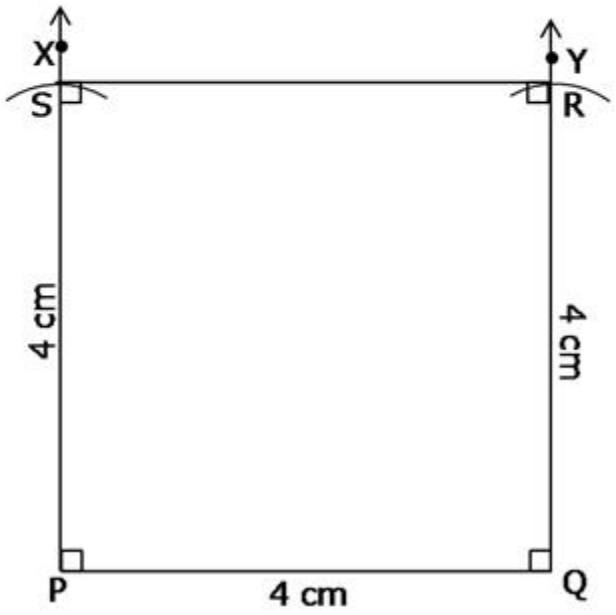
Exercise-92

Solution 1:

Steps of construction:

1. Draw seg PQ of length 4 cm.
2. Using a protractor draw a ray PX ⊥ PQ at point P.
3. Using a protractor draw a ray QY ⊥ PQ at point Q.
4. Taking P as the centre and radius equal to PQ, draw an arc to cut ray PX at S.
5. Taking Q as the centre and the same radius, draw an arc to cut ray QY at R.
6. Draw SR.

PQRS is the required square.

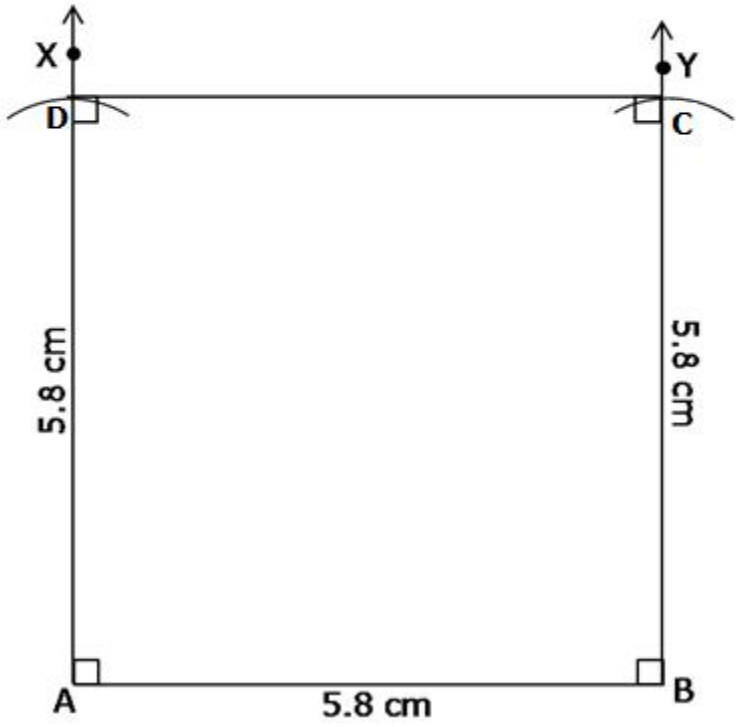


Solution 2:

Steps of construction:

1. Draw seg AB of length 5.8 cm.
2. Using a protractor draw a ray AX ⊥ AB at point A.
3. Using a protractor draw a ray BY ⊥ AB at point B.
4. Taking A as the centre and radius equal to AB, draw an arc to cut ray AX at D.
5. Taking B as the centre and the same radius, draw an arc to cut ray BY at C.
6. Draw CD.

ABCD is the required square.

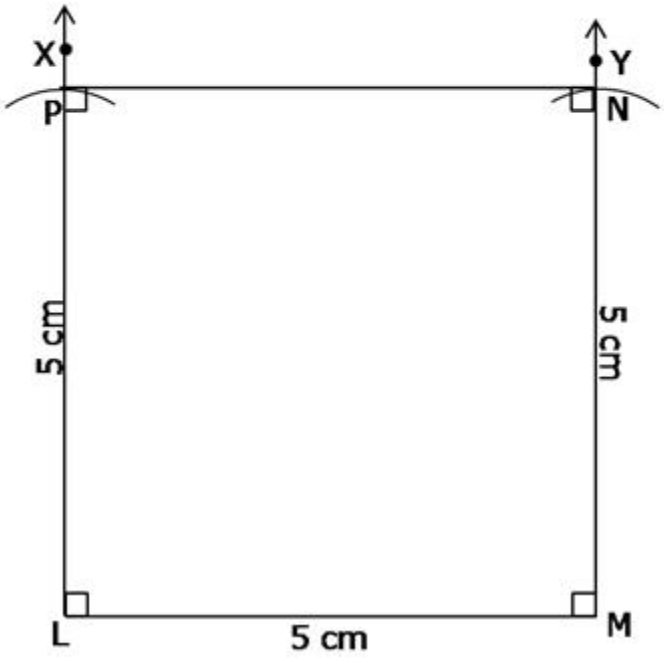


Solution 3:

Steps of construction:

1. Draw seg LM of any length, say, 5 cm.
2. Using a protractor draw a ray LX ⊥ LM at point L.
3. Using a protractor draw a ray MY ⊥ LM at point M.
4. Taking L as the centre and radius equal to LM, draw an arc to cut ray LX at P.
5. Taking M as the centre and the same radius, draw an arc to cut ray MY at N.
6. Draw PN.

LMNP is the required square.



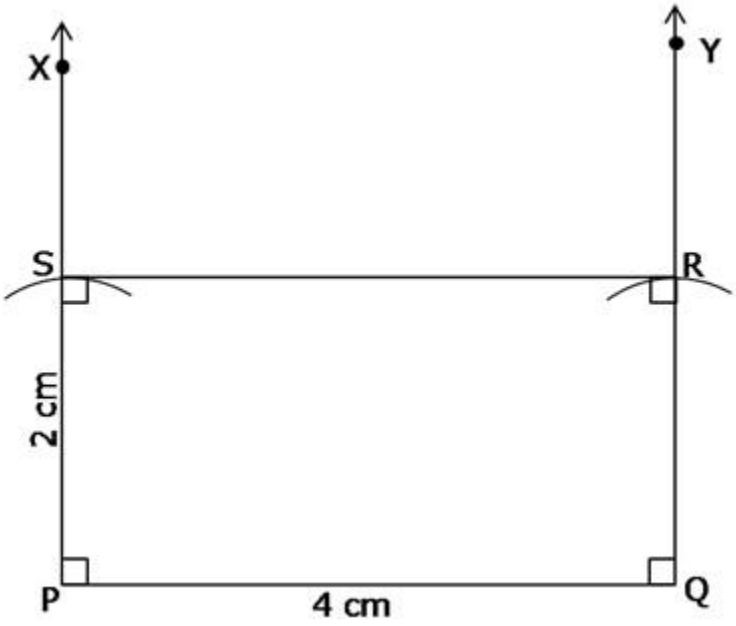
Exercise-93

Solution 1:

Steps of construction:

1. Draw seg PQ of length 4 cm.
2. Using a protractor, draw a ray PX ⊥ PQ at point P and a ray QY ⊥ PQ at point Q.
3. Placing the point of the compass on point P and taking a radius of 2 cm, draw an arc of circle to cut AX at point S. Taking the same radius and placing the point of the compass on point Q, draw an arc of circle to cut AY at point R
4. Draw seg RS.

Thus a rectangle PQRS with PQ = 4 cm and RS = 2 cm is constructed.

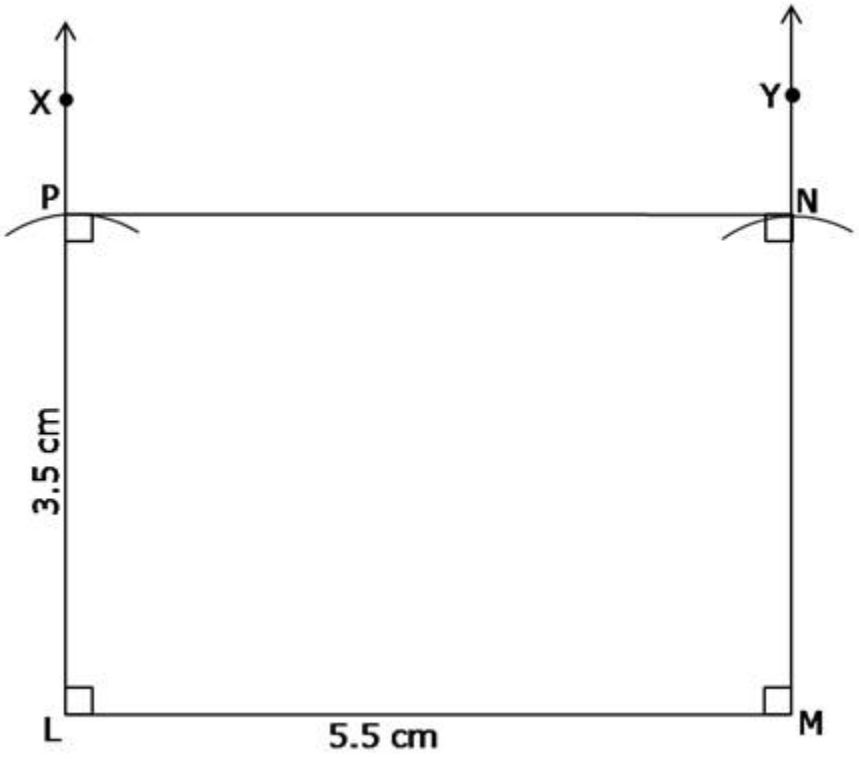


Solution 2:

Steps of construction:

1. Draw seg LM of length 5.5 cm.
2. Using a protractor, draw a ray LX ⊥ LM at point L and a ray MY ⊥ LM at point M.
3. Placing the point of the compass on point L and taking a radius of 3.5 cm, draw an arc of circle to cut LX at point P. Taking the same radius and placing the point of the compass on point M, draw an arc of circle to cut MY at point N.
4. Draw seg NP.

Thus a rectangle LMNP with LM = 5.5 cm and MN = 3.5 cm is constructed.



Solution 3:

Steps of construction:

1. Draw seg WX of any length, say, 4.5 cm.
2. Using a protractor, draw a ray WA ⊥ WX at point W and a ray XB ⊥ WX at point X.
3. Placing the point of the compass on point W and taking a radius of 2.5 cm, draw an arc of circle to cut WA at point Z. Taking the same radius and placing the point of the compass on point X, draw an arc of circle to cut XB at point Y.
4. Draw seg YZ.

Thus a rectangle WXYZ with WX = 4.5 cm and WZ = 2.5 cm is constructed.