

RD Sharma
Solutions

Class 7

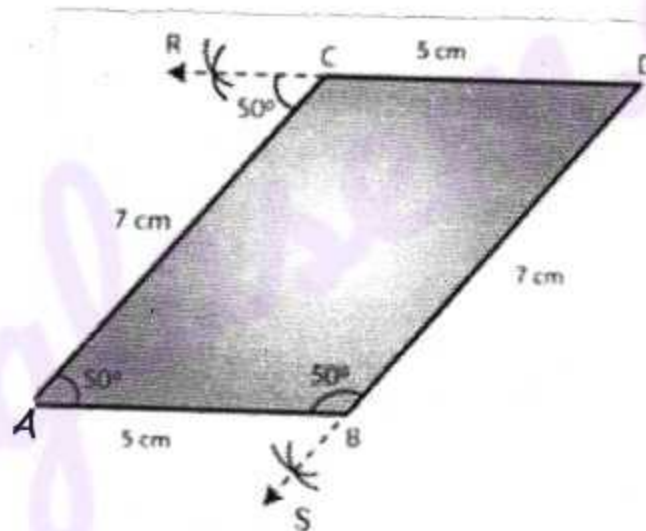
aglasem.com



Chapter-17ConstructionsExercise 17.1

Q.1 Draw an $\angle BAC$ of measure 50° such that $AB = 5\text{cm}$ and $AC = 7\text{cm}$. Through C draw a line parallel to AB and through B draw a line parallel to AC, intersecting each other at D. Measure BD and CD.

Solution

Steps of Construction

1. Draw angle $\angle BAC = 50^\circ$ such that $AB = 5\text{cm}$, $AC = 7\text{cm}$. Cut an arc through C at an angle of 50° .

2. Draw a straight line passing through C and the arc. This line will be parallel to AB. Since

$$\angle CAB = \angle RCA = 50^\circ$$

3. $\therefore RC \parallel AB$

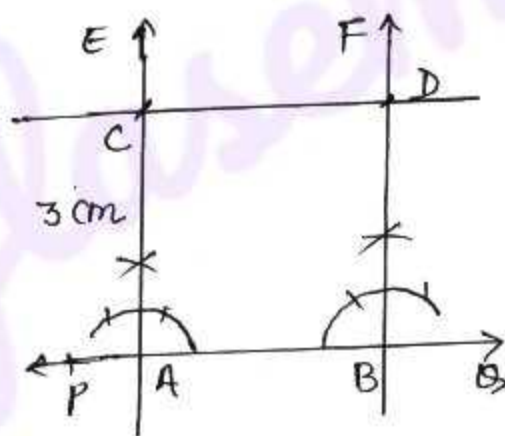
4. Again through B, cut an arc at an angle of 50° and draw a line passing through B and this arc. and say this intersects the line drawn parallel to AB at D.

5. $\angle CBA = \angle BAC = 50^\circ. \therefore BD \parallel AC$

6. Also $BD = 7\text{cm}, CD = 5\text{cm}$

Q.2 Draw a line PQ. Draw another line parallel to PQ at a distance of 3cm from it.

Solution:



Steps: (i) Draw a line PQ.

(ii) Take any two points A and B on the line.

(iii) Construct $\angle PBF = 90^\circ$ and $\angle QAE = 90^\circ$

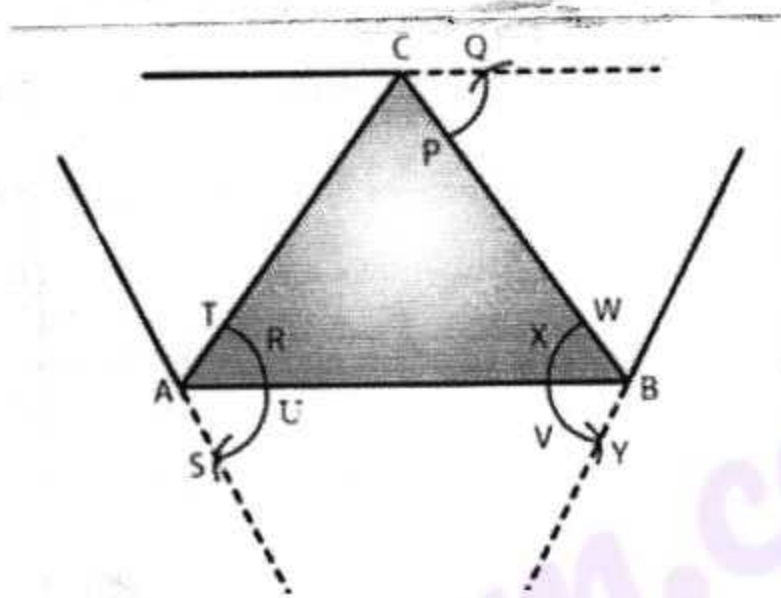
(iv) With A as centre and radius 3 cm cut AE at C.

(v) With B as centre and radius 3 cm cut BF at D.

(vi) Join CD and produce it on either side to get the required line parallel to AB at distance of 3 cm from it.

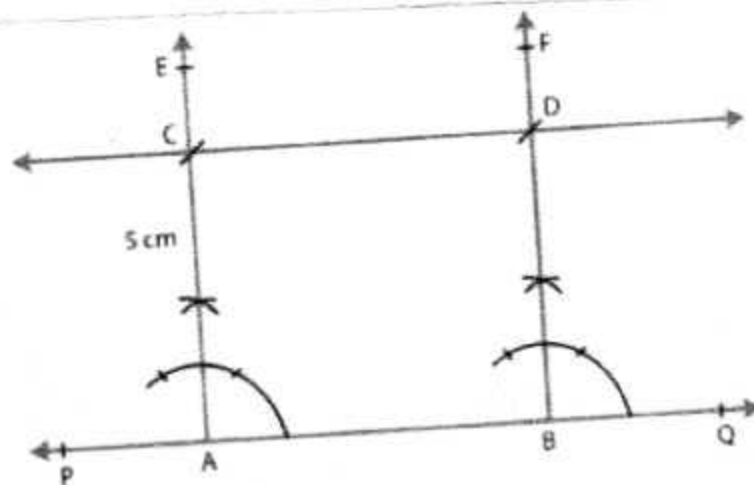
Q.3 Take any three non collinear points A, B, C and draw $\triangle ABC$. Through each vertex of the triangle draw a line parallel to the opposite side.

Solution:



Q.4 Draw two parallel lines at a distance of 5 cm apart.

Solution:



Steps of Construction

1. Draw a line PA .
2. Take any two points A and B on the line.
3. Construct $\angle PBF = 90^\circ$ and $\angle QAE = 90^\circ$.
4. With A as centre and radius 5 cm cut AE at C .
5. With B as centre and radius 5 cm cut BF at D .
6. Join CD and produce it on either side to get the required line parallel to AB and at a distance of 5 cm from it.

aglasem.com