



Basic Geometric Tools Ex 18.2 Q4

Answer :

Given:

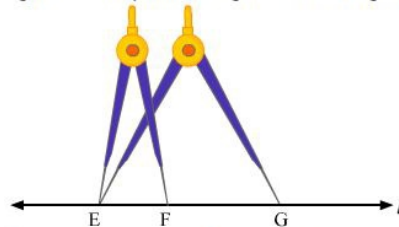
$AB = 7.5$ cm and $CD = 2.5$ cm

Draw AB and CD



(i) Draw a line l and take a point E on it.

Now, take a divider and open it such that the ends of both the arms are at A and B . Then, we lift the divider and place its one end at E and other end (F) on the line l as shown in the figure. Now, reset the divider in such a way that the end of its one hand is at C and the end of other hand is at D . Then, we lift the divider and place its one end at E and other end (G) on the line l as shown in the figure. FG is required line segment, whose length is equal to $(AB - CD)$.



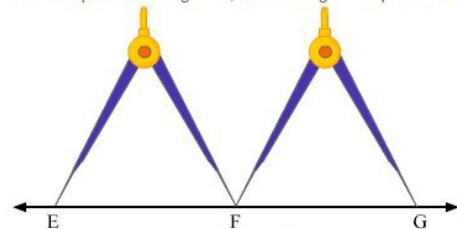
(ii) Draw a line l and take a point E on it. Now take a divider and open it such that the ends of both its arms are at A and B .

Then, we lift the divider and place its one end at E and other end (say F) on the line l as shown in the figure.

Again, lift the divider and place its one end at F and other end on the line l , opposite to E .

Let this point be G .

EG is required line segment, whose length is equal to $2AB$.



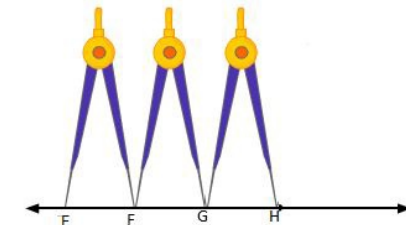
(iii) We draw a line l and take a point E on it. Now, take a divider and open it such that the ends of both its arms are at C and D .

Then, we lift the divider and place its one end at E and other end (F) on the line l , as shown in the figure.

Again, lift the divider end (G) on the line l opposite to C .

Again, lift the divider and place its one end at G and another end (H) on the line l , opposite to E .

EH is required line segment, whose length is equal to $3CD$.

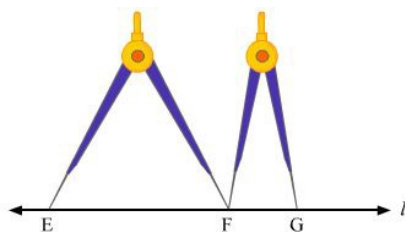


(iv) We draw a line l and take a point E on it. Now, take a divider and open it such that the ends of both its arms are at A and B . Then, we lift the divider end (F) on the line l , as shown in the figure.

Now, reset the divider in such a way that the end of its one hand is at C and the end of other hand is at D .

Then, we lift the divider and place its one end at F and another end (G) on the line l opposite to E , as shown in the figure.

EG is required line segment, whose length is equal to $(AB + CD)$.



(v) Draw a line l and take point E on it. Now, take a divider and open it such that the ends of both its arms are at A and B. Then, we lift the divider and place its one end at E and other end (say F) on the line l , as shown in the figure.

Again, lift the divider and place its one end at F and another end (G) on the line l , opposite to E.

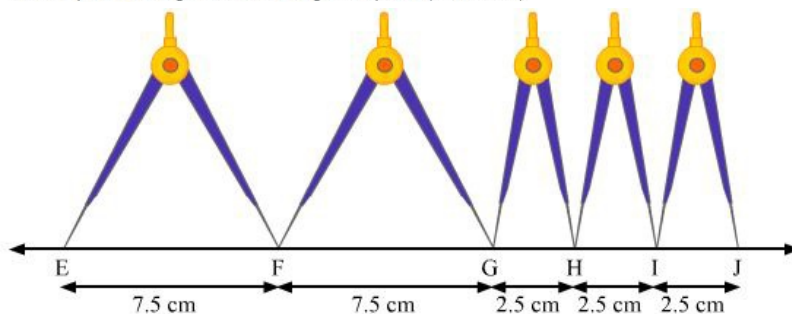
Now, reset the divider in such a way that the ends of its one hand is at C and the end of other hand is at D.

Then, we lift the divider and place its one end at G and another end (say H) on the line l , opposite to E as shown in the figure.

Again, lift the divider and place its one end at H and other end (say I) on the line l , opposite to E as shown in the figure.

Again, lift the divider and place its one end at I and another end (say J) on the line l , opposite to E as shown in the figure.

EG is required line segment, whose length is equal to $(2AB + 3CD)$.



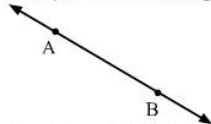
Basic Geometric Tools Ex 18.2 Q5

Answer :

(i) line segment

Explanation: A line segment is a part of a line that is bounded by two distinct end points.

Example: Sides of a triangle or any polygon



A and B are definite fixed points.

\therefore AB is a line segment.

(ii) equal to

Explanation: While naming a line segment, the order may not be same but the length will be equal.

If $AB = 4$ cm, then, $BA = 4$ cm

(iii) shortest

Explanation: We measure the length between two points as the length of the line segment between the two points. The length between two points is the straight line, which is the shortest distance between the two end points.



(iv) equal length

(v) congruent

Explanation: Line segments are congruent if they have the same length.

If $AB = 4$ cm and $CD = 4$ cm

Then, we say segment AB is congruent to segment CD.

***** END *****