

Day 7 – Partitioning a Segment

Partitioning a Segment

$$\text{Formula} = \left(\frac{Bx_1 + Ax_2}{A+B}, \frac{By_1 + Ay_2}{A+B} \right)$$

1. Find the coordinates of the point P that lies along the directed segment from C(-3, -2) to D(6, 1) and partitions the segment in the ratio 2 to 1.

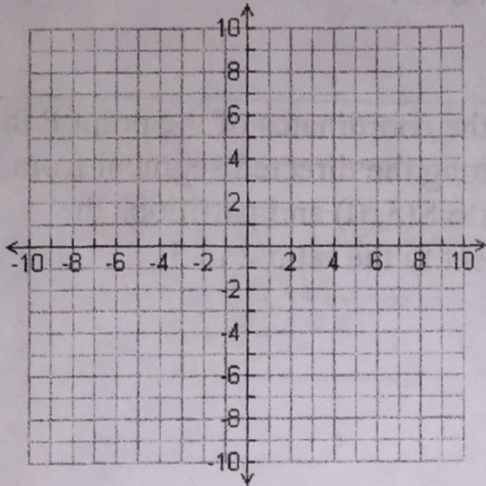
2. Find the coordinates of the point P that lies along the directed segment from R(-3, -4) to S(5, 0) and partitions the segment in the ratio 2 to 3.

3. Find the coordinates of the point P that lies along the directed segment from J(-2, 5) to K(2, -3) and partitions the segment in the ratio 4 to 1.

4. Find the coordinates of the point P that lies along the directed segment from M(5, -2) to N(-5, 3) and partitions the segment in the ratio 1 to 3.

5. Find a point that partitions a directed line segment from $C(4, 3)$ to $D(10, 3)$ in a given ratio.

A. Plot the points on a grid. (Notice that the points lie on the same horizontal line). What is the distance between the points?



B. Use the fraction of the total length of CD to determine the location of Point A which partitions the segment from C to D in a ratio of $5:1$. What are the coordinates of A ?

C. Find Point B that partitions a segment from C to D in a ratio of $1:2$ by using the fraction of the total length of CD to determine the location of Point B . What are the coordinates of B ?

6. Find the coordinates of the indicated point along the directed line segment YZ .

A. If $Y(4,5)$ and $Z(4, 10)$, find X so the ratio is of YX to XZ is $4:1$.

B. If $Y(4,5)$ and $Z(4, 10)$, find W so the ratio is of YW to WZ is $3: 2$