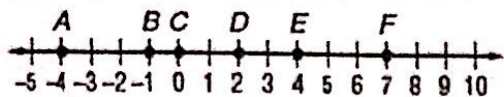


Day 4: Midpoint Formula Notes

How would you find the midpoint between the following points?



a. Midpoint of \overline{AD} = -1

b. Midpoint of \overline{BD} = -1

c. Midpoint of \overline{CF} = 3.5

d. Midpoint of \overline{FB} = 3

The Midpoint Formula allows you to find the midpoint or center between two points.

Midpoint Formula: $\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$

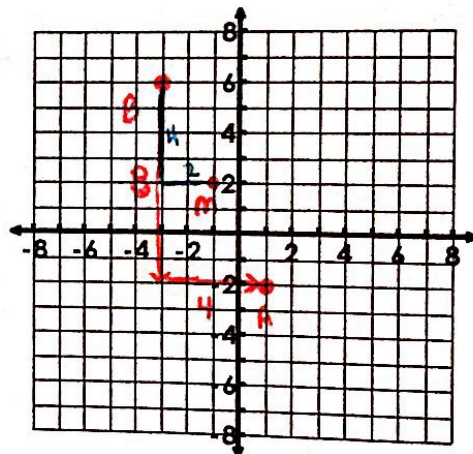
1. Find the midpoint between (1, -2) and (-3, 6).

$$x = \frac{1 + (-3)}{2} \quad y = \frac{-2 + 6}{2}$$

$$x = \frac{-2}{2} \quad y = \frac{4}{2}$$

$$x = -1 \quad y = 2$$

m(-1, 2)



2. Find the midpoint between (6.4, 3) and (-10.7, 4).

$$x = \frac{6.4 + (-10.7)}{2} \quad y = \frac{3 + 4}{2}$$

$$x = \frac{-4.3}{2} \quad y = \frac{7}{2}$$

$$x = -2.15 \quad y = 3.5$$

m(-2.15, 3.5)

Geometry

Unit 1: Segment Relationships

3. M is the midpoint of segment AB. The coordinates of A are (-2, 3) and the coordinates of M are (1, 0). Find the coordinates of B.

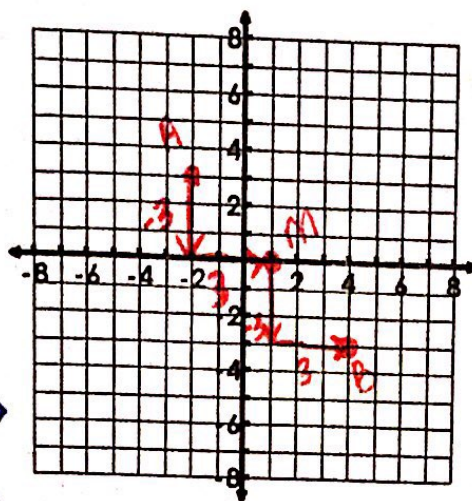
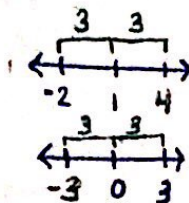
Notes

$$2 \cdot 1 = \frac{-2 + x_2}{2} \quad 2 \cdot 0 = \frac{3 + y_2}{2}$$

$$\begin{array}{r} 2 = \frac{-2 + x_2}{2} \\ +2 \quad +2 \\ \hline 4 = x_2 \end{array}$$

$$\begin{array}{r} 0 = \frac{3 + y_2}{2} \\ -3 \quad -3 \\ \hline -3 = y_2 \end{array}$$

B(4, -3)



4. B is the midpoint of segment AC. The coordinates of A are (-10, 4) and the coordinates of B are (-2, 4). Find the coordinates of C.

xy

$$2 \cdot -2 = \frac{-10 + x_2}{2} \quad 2 \cdot 4 = \frac{4 + y_2}{2}$$

$$\begin{array}{r} -4 = \frac{-10 + x_2}{2} \\ +10 \quad +10 \\ \hline 6 = x_2 \end{array}$$

$$\begin{array}{r} 8 = \frac{4 + y_2}{2} \\ -4 \quad -4 \\ \hline 4 = y_2 \end{array}$$

C(6, 4)

