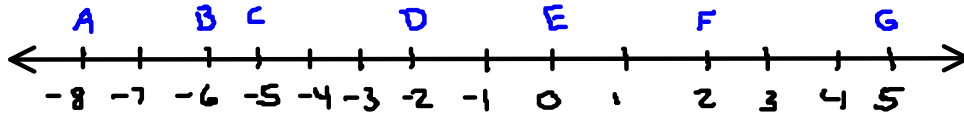


## Lengths of Segments, Distance and Midpoint Formulas

1. Refer to the number line below to find each measure.



- $AE$
- $BD$
- $EC$
- $FD$
- $GA$

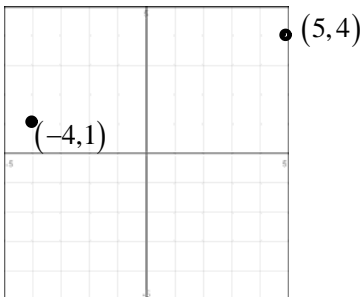
2. If  $Q$  is between  $P$  and  $R$ , find each missing measure.

- $PQ = 7$ ,  $QR = 11$ ,  $PR =$
- $RQ = 15$ ,  $PR = 20$ ,  $QP =$
- $PQ = 4\frac{2}{3}$ ,  $QR = 1\frac{1}{3}$ ,  $RP =$

3. If  $Q$  is between  $P$  and  $R$ , find the value of  $x$  and the length of each segment.

- $PQ = 2x$   
 $QR = 4x + 6$   
 $PR = 24$
- $QP = 3x + 7$   
 $RQ = 2x + 8$   
 $RP = 6x$
- $PQ = 4 - x$   
 $RQ = 2(x + 3)$   
 $RP = 5x - 2$

4. Use the coordinate plane to find the measure of  $\overline{AB}$ . Round your answer to the nearest hundredth.



5. Find the coordinates of point  $A$  if  $C(2, -1)$  is the midpoint of  $\overline{AB}$  and the coordinates of  $B$  are  $(4, 1)$ .

6. If  $F$  is the midpoint of  $\overline{DE}$ ,  $DF = 3x + 4$  and  $FE = 2x + 12$ , find the value of  $x$  and the measure of  $\overline{DE}$ .