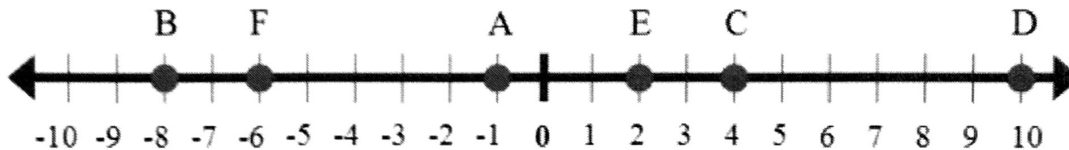---

*I can find the **distance** between two numbers **without using a number line.***

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**Distance Between Two Points: INTEGERS**

The distance between any two points on the number line is the ___absolute___

___value___ of their difference.



Find the distance between the points:

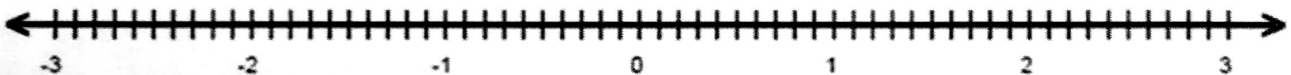1) E and A $\quad |2-(-1)| = 3$

2) A and F $\quad |-1-(-6)| = 5$

3) F and B $\quad |-6-(-8)| = 2$

4) C and B $\quad |4-(-8)| = 12$

---

**Distance Between Two Points: DECIMALS**

**Use the number lines to find the distances between the points.**



a) $-2.5$ and $-1.3$

$|-2.5-(-1.3)| =$
$\qquad 1.2$
$|-1.3-(-2.5)| =$

b) $-0.8$ and $1.2$

$|-0.8-1.2| =$
$\qquad 2$
$|1.2-(-0.8)| =$

c) $1.2$ and $2.9$

$|1.2-2.9| =$
$\qquad 1.7$
$|2.9-1.2| =$

d) $-3.5$ and $-1.2$

$|-3.5-(-1.2)| =$
$\qquad 2.3$
$|-1.2-(-3.5)| =$

e) $3.1$ and $-0.6$

$|3.1-(-0.6)| =$
$\qquad 3.7$
$|-0.6-3.1| =$

f) $-1.25$ and $0.5$

$|-1.25-0.5| =$
$\qquad 1.75$
$|0.5-(-1.25)| =$

**Distance Between Two Points: FRACTIONS** or Decimals



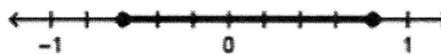Number line from -2 to 3 with points: E (≈ -0.5), D (≈ 0.35), A (≈ 0.75), C (≈ 1.5), B (≈ 2.2), F (≈ 2.6)
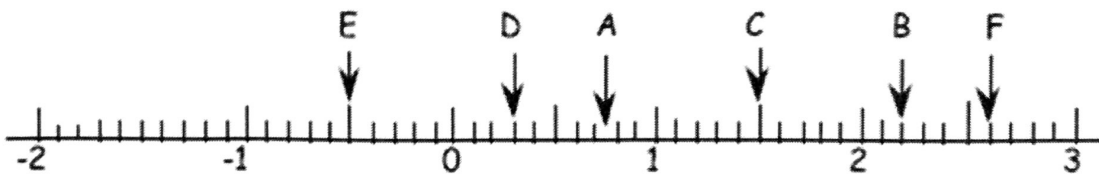
1) the distance between A and C is  $|0.75 - 1.5|$  =  0.75

2) the distance between F and B is  $|2.6 - 2.2|$  =  0.4

3) the distance between E and C is  $|-0.5 - 1.5|$  =  2

**Test Practice**

1) How does the expression $|9 - (-5)|$ relate to the numbers –5 and 9 on the number line?

   (A) The expression shows that 9 is greater than –5.

   (B) The expression shows that –5 is to the left of 0 and 9 is to the right of 0 on the number line.

   (C) The expression represents the sum of –5 and 9.

   (D) The expression represents the distance between –5 and 9 on the number line.

2) Which of the following expressions results in the distance between –5 and 6 on a number line?

   (A) $|6 - 5|$

   (B) $|6 - (-5)|$

   (C) $|-5| - |6|$

   (D) $|5 - 6|$

3) Which of the following expressions give the distance between the endpoints of the segment shown on the number line below?

   

   Number line from -1 to 1 with two filled points

   (A) $\left| -\dfrac{3}{5} - \left( -\dfrac{4}{5} \right) \right|$

   (B) $\left| -\dfrac{3}{5} - \dfrac{4}{5} \right|$

   (C) $-\dfrac{3}{5} - \dfrac{4}{5}$

   (D) $\left| \dfrac{3}{5} - \dfrac{4}{5} \right|$

   (E) $\left| \dfrac{4}{5} - \left( -\dfrac{3}{5} \right) \right|$