Name _____

Date _____ Pd_____
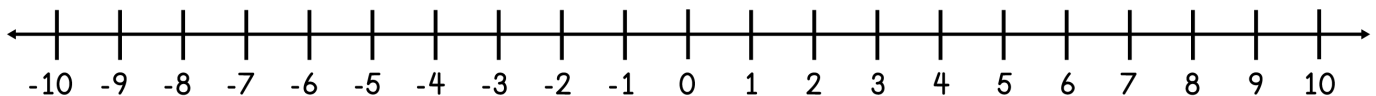
# REPRESENTATIONS ON THE NUMBER LINE

Mr. Bartholomew asks students to plot a point on a number line between 10 and -10. Diego plots a point at -8 and Lily plots a point at 8. How far away are the points from each other? Whose point is further from zero?
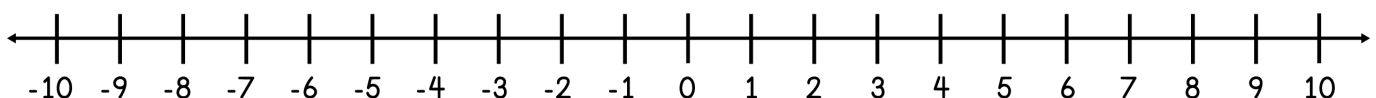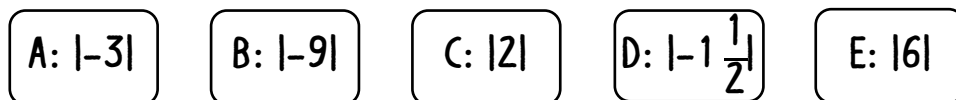


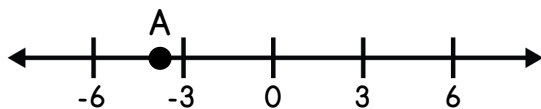| ABSOLUTE VALUE | The absolute value of a number is the _____ away from zero on the number line. It is always positive because it refers to distance. |
| --- | --- |
| | • \|-5\| is read _____ |
| | • Ex:  \|-5\| = _____   \|5\| = _____ |

Use the number line below to plots points A-E.

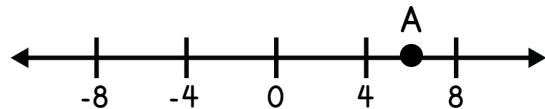| A: \|-3\| | B: \|-9\| | C: \|2\| | D: $\|-1\frac{1}{2}\|$ | E: \|6\| |
| --- | --- | --- | --- | --- |



Plot a point on each number line below so that the two values combine to make zero. Then, write a real-life example in questions 3-4.
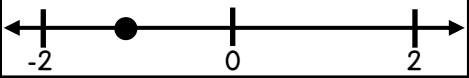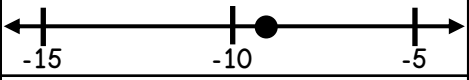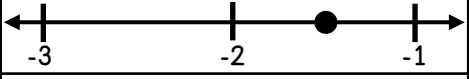
| 1.  | 2.  |
| --- | --- |
| 3. Thirty-five dollars is deposited into a bank account. | 4. A scuba diver submerges and travels 57 feet below sea level. |

## OPPOSITES

The opposite of a number is the same distance away from zero but always on the _____ of the number line. It can be either positive or negative.

5. Use your understanding of opposites and absolute value to complete the table below.

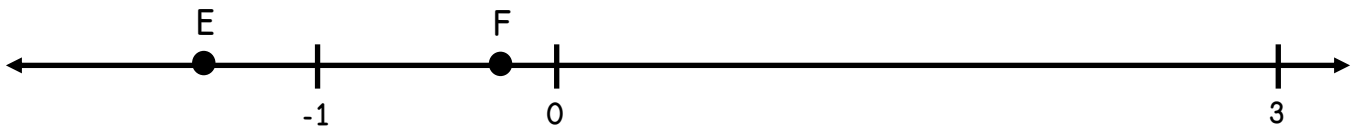| NUMBER LINE | NUMBER | ABSOLUTE VALUE | OPPOSITE |
|---|---|---|---|
| -2    0    2 | | | |
| -15   -10   -5 | | | |
| -3   -2   -1 | | | |
| 6   8   10 | | | |

6. Several clues are given to describe various points on the number line below. Determine which number the clue is describing and mark the point on the number line.

**A** Point A is an equal distance from zero as point E.

**B** The absolute value of point B is 2.

**C** The opposite of point C is negative.

**D** Point D and point F could combine to make zero.

E          F
-1          0          3

Use your understanding of comparing integers to answer questions 7-8.

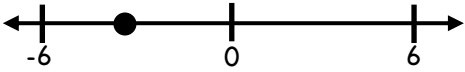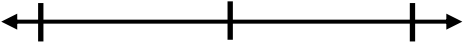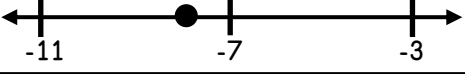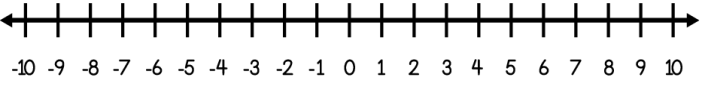| 7. Nikki says that a number and its absolute value will always combine to make zero. Explain why Nikki is incorrect. | 8. The magic number is -15. Combine each statement with the magic number and determine if it will result in zero. |
|---|---|
| | _____ a. An elevator rises 15 floors. |
| | _____ b. $15 is withdrawn out of your account. |
| | _____ c. The temperature rises 15 degrees. |

Summarize today's lesson:

# REPRESENTATIONS ON THE NUMBER LINE

Apply your understanding of the number line to complete the missing information in the table below.

| NUMBER LINE | NUMBER | ABSOLUTE VALUE | OPPOSITE |
|---|---|---|---|
| -6 ● 0 6 | | | |
| | | 7 | |
| -11 ● -7 -3 | | | |
| | | | -12 |

Use your understanding of the number line to answer the questions below.

| 1. Noah is asked to plot the number |−9| on the number line below. Where should Noah plot the number? | 2. Which of the following is NOT true about the number given below? |
|---|---|

1. Noah is asked to plot the number |−9| on the number line below. Where should Noah plot the number?

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10

2. Which of the following is NOT true about the number given below?

$$-6.7$$

a. The number is negative.
b. The opposite of the number is negative.
c. The absolute value of the number is positive.
d. The number is 6.7 units away from zero.

3. Write a real-world example so that it combines to make zero in each situation below.

a. The temperature drops to 15 degrees below zero.

b. Michael has $0 in his account but makes a purchase and overdrafts his account by $75.

c. An elevator rises to the ninth floor.

d. The parking garage is located 4 floors underneath ground level.