Get out your homework from yesterday and have it ready to check! Warm Up on the following problems on your own piece of paper.

Classwork - Adding Integers

Warm Up! Use <,>, or = to compare the following integers

$-3 \underline{\ <\ } 4$

$-7 \underline{\ >\ } -14$

$9 \underline{\ >\ } -17$

$4 \underline{\ <\ } |-8|$
8

$|-5| \underline{\ =\ } 5$
5

$|-3| \underline{\ <\ } 4$
3

Homework Answer Key

Write an integer for each situation.

1. a profit of $12 **12**

2. 1,440 feet below sea level **−1,440**

3. 22°F below zero **−22**

4. a gain of 31 yards **31**

Graph each set of integers on a number line.

5. $\{-5, 0, 5\}$

6. $\{-3, -2, 1, -4\}$

Evaluate each expression.

7. $|-11|$ **11**

8. $|-5| + 8$ **13**

9. $|-4| - |-4|$ **0**

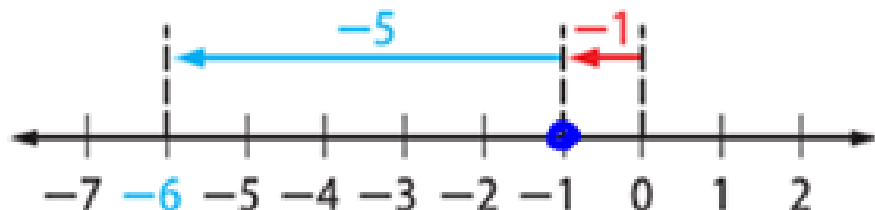10. $|12| \div 2 \times |-5|$ **30**

11. $|-4| + 7 - |3|$ **8**

12. $9 + |-6| \div |-3|$ **11**

13. **HEALTH** A veterinarian recommends that a St. Bernard lose weight. Write an integer to describe the dog losing 25 pounds. **−25**

14. **GEOGRAPHY** Mount Kilimanjaro is the highest peak in Africa. Write an integer to represent the elevation of Mount Kilimanjaro at 5,895 meters above sea level. **5,895**

15. **ECONOMY** Gasoline prices occasionally fluctuate during a two-month period of time. Prices increased 34 cents per gallon during the month of April and decreased 17 cents per gallon during the month of May. Which situation has the greater absolute value? Explain.
Increase of 34 cents because $|34| = 34$, $|-17| = 17$, and $34 > 17$.
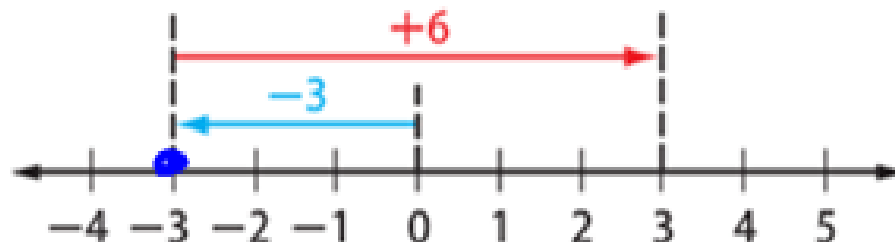
Adding Integers Using a Number Line

A) $-1 + (-5) =$ __−6__

Step 1: _Start @ −1_

Step 2: _Move left 5 units_

Step 3: _____
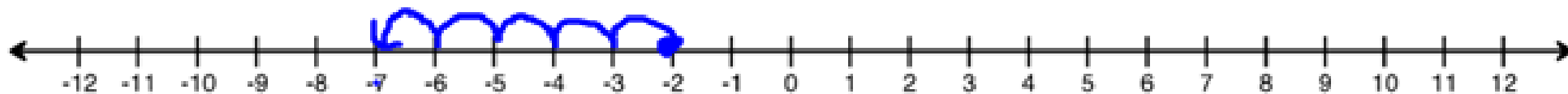
B) $-3 + 6 =$ __3__

Step 1: _Start @ −3_
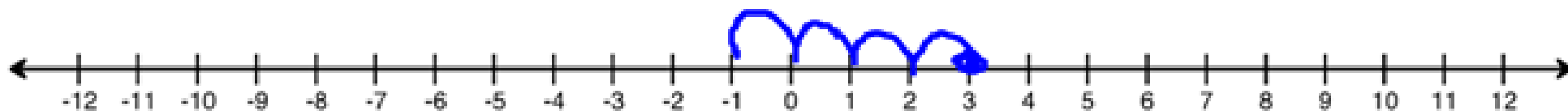
Step 2: _Move right 6 units_

Step 3: _____

B • When **adding** a positive integer, you move the ___right___ on the number line. Meaning the sum's resulting value will be ___larger___.

A • When **adding** a negative integer, you move the ___left___ on the number line. Meaning the resulting sum's value will be ___smaller___.

Find the sums of the addition problems below using a number line.
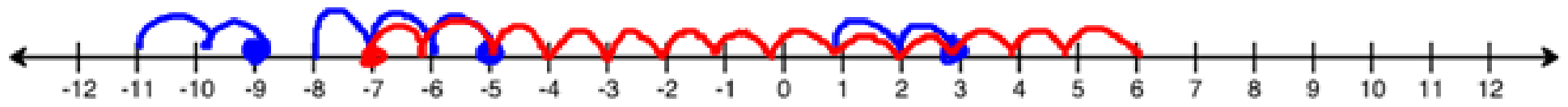
A) $-2 + (-5) = -7$


```
-12  -11  -10  -9  -8  -7  -6  -5  -4  -3  -2  -1  0  1  2  3  4  5  6  7  8  9  10  11  12
```

B) $3 + (-4) = -1$


```
-12  -11  -10  -9  -8  -7  -6  -5  -4  -3  -2  -1  0  1  2  3  4  5  6  7  8  9  10  11  12
```

C) $-8 + 6 = -2$


```
-12  -11  -10  -9  -8  -7  -6  -5  -4  -3  -2  -1  0  1  2  3  4  5  6  7  8  9  10  11  12
```

D) $4 + (-9) = -5$


```
-12  -11  -10  -9  -8  -7  -6  -5  -4  -3  -2  -1  0  1  2  3  4  5  6  7  8  9  10  11  12
```
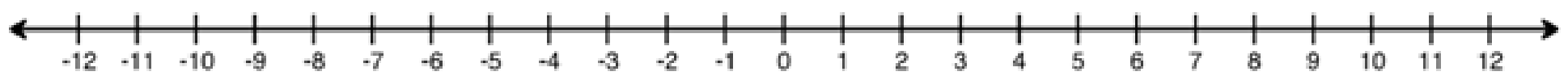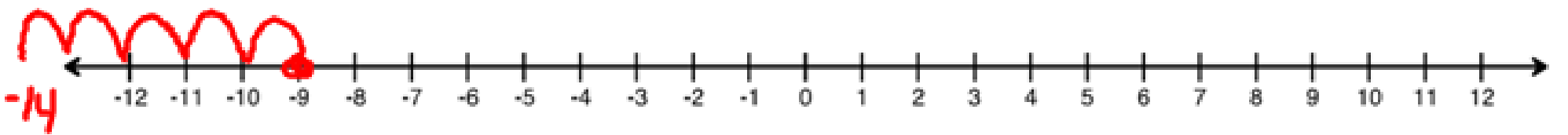
1) $-9 + (-2) = -11$ 2) $3 + (-2) = 1$ 3) $-5 + (-3) = -8$ 4) $-7 + 13 = 6$
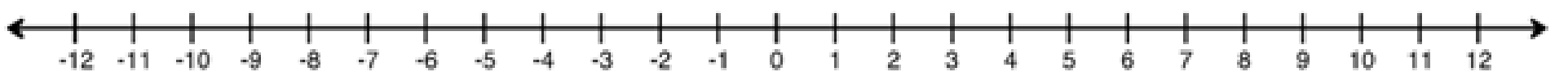

5) $-6 + (-4) = -10$ 6) $2 + (-11) = -9$ 7) $9 + 15 = 24$ 8) $2 + (-10) = -8$

9) $-6 + 8 = 2$ 10) $-9 + (-5) = -14$ 11) $-7 + (-4) = -11$ 12) $-8 + 8 = 0$

-14

13) $12 + (-9) = 3$ 14) $-8 + (-7) = -15$ 15) $-4 + 14 = 10$ 16) $6 + (-13) = -7$

17) A blue whale was at a depth of 275 feet below the surface of the water. After 10 minutes, it rose 150 feet. What is the current depth of the blue whale? Write an addition equation to and then solve. What does the sum mean in the context of the situation?

$$-275 + 150 = -125 \text{ feet}$$

18) A football team gained 6 yards on a play. It then lost 10 yards on the next play. What was the total change of yardage for the team? Write an addition equation to and then solve.

$$6 + (-10) = -4 \text{ yards}$$

19) A contestant has -1500 points. He loses another 250 points. What is his new score? Write an addition equation to and then solve.

$$-1500 + (-250) = -1750 \text{ points}$$