

Lesson 1-7

Adding Integers

What is the opposite of 5? -5

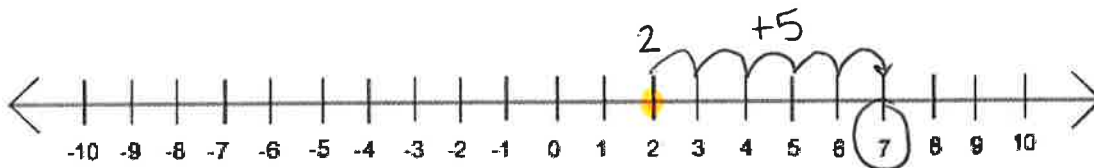
What is the opposite of -3? 3

What is $-5 + 5$? 0

Adding Integers with LIKE Signs

+ plus +	$2 + 4 = 6$	positive answer
- plus -	$-3 + (-5) = -8$	negative answer

Show $2 + 5$ on the number line.



Show $-5 + (-2)$ on the number line.



Try without the number line.

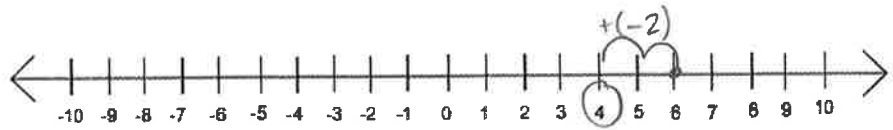
$$-5 + (-7) = -12$$

$$2 + 8 = 10$$

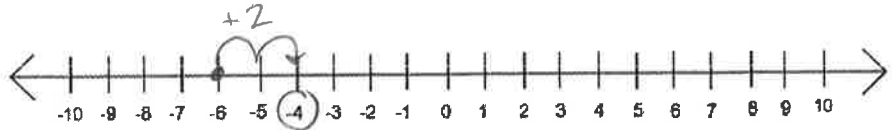
$$-25 + (-36) = -61$$

Adding Integers with UNLIKE Signs

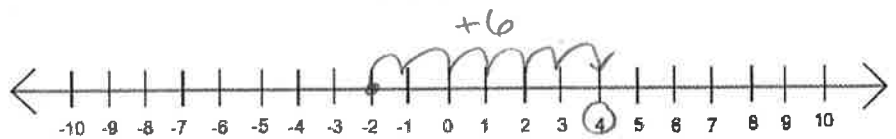
Show $6 + (-2)$ on the number line.



Show $-6 + 2$ on the number line.



Show $-2 + 6$ on the number line.



To add two integers with different signs follow these steps:

$$-2 + 5 = ?$$

1) Find the absolute value of each number and subtract.

$$2 \text{ and } 5 \text{ are the absolute values, so } 5 - 2 = 3$$

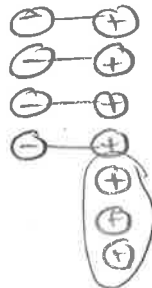
2) Determine whether the answer is + or - by looking at the sign of the integer with the greater absolute value.

5 has the greatest absolute value and is positive in the original problem.

So the answer is **positive 3**.

Try without the number line.

$$-4 + 7 = \begin{array}{l} | -4 | = 4 \\ | 7 | = 7 \\ 7 - 4 = \boxed{3} \end{array}$$

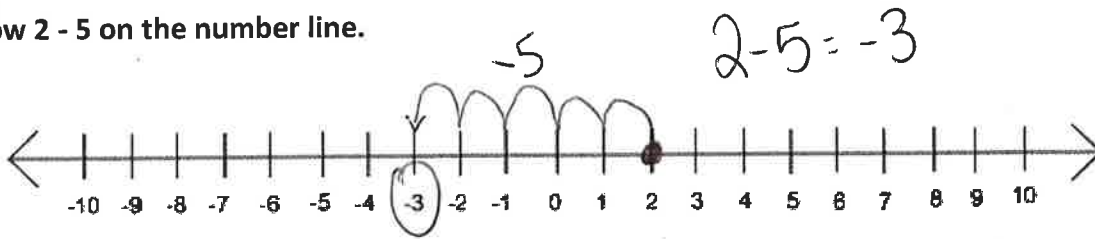


$$5 + (-9) = \begin{array}{l} | 5 | = 5 \\ | -9 | = 9 \\ 9 - 5 = \boxed{-4} \end{array}$$

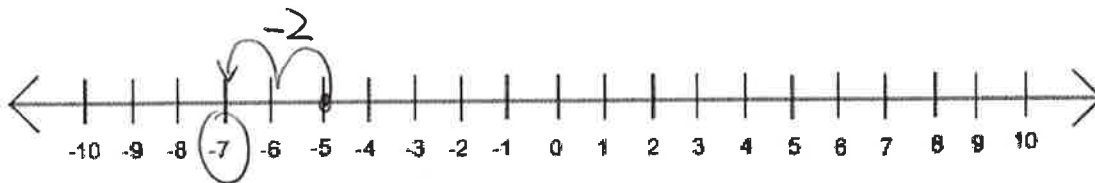
$$-26 + 12 = \begin{array}{l} | -26 | = 26 \\ | 12 | = 12 \\ \begin{array}{r} 26 \\ - 12 \\ \hline -14 \end{array} \end{array}$$

Subtracting Integers

Show $2 - 5$ on the number line.



Show $-5 - 2$ on the number line.



Show $-5 - (-2)$ on the number line.



To subtract an integer, add the **opposite**.

$$2 - 5 = 2 + (-5) = -3$$

$$2 - (-5) = 2 + 5 = 7$$

Try without the number line.

$$2 - 6 = 2 + (-6) = 6 - 2 = \boxed{4}$$

$$-5 - 10 = -5 + (-10) = -15$$

$$-35 - (-20) = -35 + (20) = -15$$

$$\begin{array}{r} 35 \\ -20 \\ \hline 15 \end{array}$$

$$\textcircled{1} \quad 8 - 7 + 4 = \boxed{5}$$

$$\textcircled{2} \quad 7 + (-10) = \boxed{-3}$$

$$\textcircled{3} \quad 21 - (-7) = 21 + (7) = \boxed{28}$$

$$\textcircled{4} \quad 9 - 26 = 9 + (-26) = \boxed{-17}$$

$$\begin{array}{r} 9 \\ -26 \\ \hline -17 \end{array}$$

$$5 - \textcircled{3} = 2$$

$$5 - (-3)$$