

## Adding Integers

### Adding Integers with LIKE Signs

+ plus +

$$23 + 14 = 37$$

positive answer

- plus -

$$-12 + (-31) = -43$$

negative answer

You Try!

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

$$-56 + 12 = -44$$

### Adding Integers with UNLIKE Signs

To add two integers with different signs follow these steps:

$$-12 + 42 = ?$$

1) Ignore the signs and find the difference (subtract).

$$42 - 12 = 30$$

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

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

So the answer is **positive 30**.

You Try!

$$-15 + 20 = 5$$

$$-25 + 10 = -15$$

$$56 + (-12) = 44$$

CHALLENGE:

$$-40 + 3^2 \cdot 5 + (-12)$$

$$-40 + 9 \cdot 5 + (-12)$$

$$-40 + 45 + (-12) = 5 + (-12) = -7$$

## Subtracting Integers

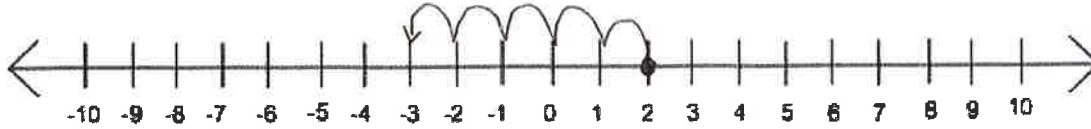
### Subtracting Integers

Show  $2 - 5$  on the number line.

$$= -3$$

$$2 - 5 = -3$$

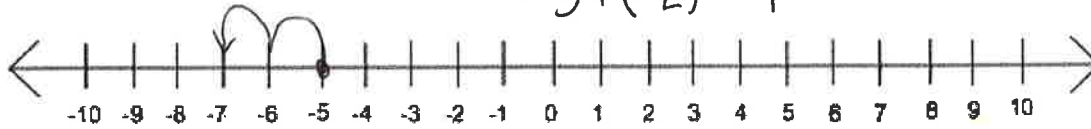
$$2 + (-5) = -3$$



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

$$-5 - 2 = -7$$

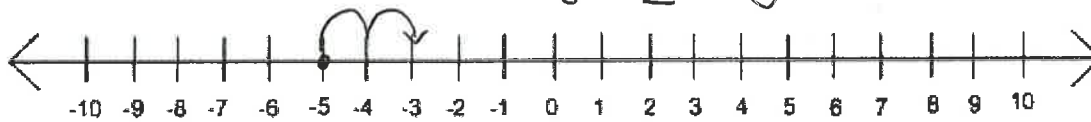
$$-5 + (-2) = -7$$



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

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

$$-5 + 2 = -3$$



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

first # stays  $\longrightarrow 2 - 5 = 2 + (-5) = -3$

the same.  $2 + (+5) = 2 + 5 = 7$

Try without the number line.

$$12 - 56 =$$

$$5 + -10 = -5$$

$$-5 - 10 =$$

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

$$-15 - (-20) =$$