

Adding and Subtracting Integers

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Review:

Absolute Value is the distance away from 0 on the number line and is always positive.

Integers include positive and negative numbers.

-3 and 3 are called opposites.

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Adding and Subtracting Integers using a number line



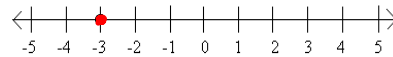
All positive numbers are to the right of zero

All negative numbers are to the left of zero.

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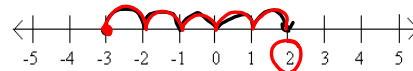
Steps: -3 + 5 5 - 3

1. Make a point at the first number of the expression



Since -3 is the first number, make a point at -3

2. Next, count the number of spaces based on the second number of the expression (remember the direction based on the sign of the number)

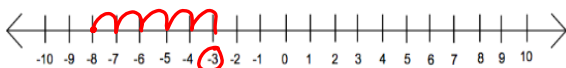


Since 5 is positive, move 5 spaces to the right.

$$-3 + 5 = 2$$

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Example 1: -8 + 5



$$-8 + 5 = -3$$

Example 2: -6 - 4

Hint: what is the sign in front of the second number



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Example 3: -2 - 4



Example 4: -10 + 8



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Adding and Subtracting Integers using a different method

Rule #1:

Same Sign: If both numbers have the same sign, add the numbers and keep the sign

If both numbers are positive, then the answer will be positive

$$3 + 6 = 9$$

If both numbers are negative, then the answer will be negative

$$-6 - 3 = -9$$

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$$4 + 7 = 11$$

$$-20 - 22 = -42$$

$$-5 - 7 = -12$$

$$25 + 13 = 38$$

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Rule #2:

Different Signs: If both numbers have different signs, subtract the numbers and take the sign of the number with the greatest absolute value

$$-7 + 3 = -4$$

$$20 - 11 = 9$$

$$-15 + 6 = -9$$

$$-18 + 30 = 12$$

$$64 - 75 = -11$$

$$12 - 3 = 9$$

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Try on your own:

$$-11 - 6 = -17$$

$$-6 + 12 = 6$$

$$4 - 20 = -16$$

$$-45 - 9 = -54$$

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Additive Inverse Property

the additive of a number is what you add to a number to create a sum of zero. In other words, take the sum of a number and its opposite to equal zero.

$$-5 + 5 = 0$$

$$-7 + 7 = 0$$

Create 2 additive inverse property examples on your own:

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