Adding and Subtracting Integers

Do two wrongs make a right?

Adding Integers

$$+ \; + \; + \; = \; +$$

$$- \; + \; - \; = \; -$$

$$+ \; + \; - \; = \; +$$

$$+ \; + \; - \; = \; -$$

Karaoke Time!

Addition Rule: Sung to the tune of "Row, row, row, your boat"

Same signs add and keep,
different signs subtract,
keep the sign of the higher number,
then it will be exact!

Keep　Change　Change

Whenever you see subtraction, you can apply Keep Change Change to turn it to addition

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

$$10 - (-3) = 10 + 3$$

1. Keep the 1st number the same

2. Change the subtraction sign to an addition sign

3. Change the sign of the second number to the opposite sign
   a) Negative becomes positive
   b) Positive becomes negative

ADDING INTEGERS

	Rules	Examples
Adding integers with the same sign	The sum of two positive integers is always positive. The sum of two negative integers is always negative.	$6 + 2 = 8$ $(-6) + (-2) = -8$
Adding integers with different signs	If the numbers you are adding have different signs, subtract the smaller number from the larger number, then determine which number is larger. The sign (positive or negative) of the answer will be the sign of the larger number.	$8 + (-2) = 6$ $(-8) + 2 = -6$

Integer Rules

Add

Same Sign

Add and take the sign

(-3) + (-4) = -7
3 + 7 = 10

Different Sign

Subtract and take the sign of largest absolute value

(-5) + 9 = 4
(-13) + 8 = -5

Subtract
Change to add the opposite

(-3) − (+4) = (-3) + (-4)
(-5) − (-9) = (-5) + (+9)

Multiply/Divide

Same Sign
Positive answer

Different Sign
Negative answer

Keep Change Change

Keep the first number the same

12 − (-6) =

12 + 6 = 18

Change the sign of the second number to its' opposite. (In this case, a negative to a positive)

Change the subtraction sign to an addition sign.

So... 12 − (-6) = 18