

INTEGER OPERATIONS

RULES FOR INTEGERS (SIGNED NUMBERS)	
<p style="text-align: center; color: magenta; margin: 0;">ADDITION</p> <p>$+$ and $+$ = $+$</p> <p>$-$ and $-$ = $-$</p> <p>$+$ and $-$ = $+$</p> <p>$+$ and $-$ = $-$</p>	<p style="text-align: center; color: magenta; margin: 0;">SUBTRACTION</p> <p style="text-align: center; font-weight: bold; margin: 0;">ADD THE OPPOSITE!</p> <div style="border: 1px solid green; padding: 5px; margin: 5px 0;"> <p style="font-size: small;">(Change the subtraction sign to an addition sign. Change the sign of the second number. Now follow the Addition rules!)</p> </div>
<p style="color: magenta; margin: 0;">MULTIPLICATION AND DIVISION</p> <p>$+$ and $+$ = $+$ $+$ and $-$ = $-$</p> <p>$-$ and $-$ = $+$ $-$ and $+$ = $-$</p>	
<p style="font-size: x-small; margin: 0;">Compliments of Lois Terms www.loisterms.com</p>	

Notice how the Integer Rules chart works.

ADDITION

If both numbers have positive signs, then the answer will be positive.

$$+ \quad \text{and} \quad + \quad = \quad + \qquad +3 \quad + \quad +4 \quad = \quad +7$$

If both numbers have negative signs, then the answer will be negative.

$$- \quad \text{and} \quad - \quad = \quad - \qquad -3 \quad + \quad -4 \quad = \quad -7$$

Suppose, however, you are trying to add numbers with different signs...

When you are adding numbers with different signs, pretend that the numbers are arm wrestling. The two numbers step into the ring, let's say, **+8** and **-3**. The numbers take off their robes--that is, their positive and negative signs. The numbers both put their elbows on the table and go hand to hand, muscle to muscle. The big number always wins (the number with the biggest absolute value). In this case, **8** wins, because without its sign, **8** is bigger than **3**. **8** wins the match by **5** points. (**8 - 3 = 5**). After **8** wins, its positive sign goes with **5**. So, **+8 + -3 = +5**.



Notice how the rules for adding numbers with different signs are shown on the chart:

$+$ and $- = +$	means: "Big positive plus little negative equals a positive."
$+$ and $- = -$	means: "Little positive plus big negative equals a negative."

SUBTRACTION

There is just one simple rule for subtracting signed numbers.

ADD THE OPPOSITE!

Study the example below to see how to change a subtraction problem into addition. (1) Leave the sign of the first number alone. (2) Change the subtraction sign to an addition sign. (3) Change the sign of the second number. Changing the sign of the second number changes it to its opposite. (4) Now go back and follow the addition rules given above. Get it? "ADD THE OPPOSITE!"

To subtract, Add the Opposite!

1. Don't change the sign of the first number.

2. Change the subtraction sign to an addition sign.

4. Now, use the rules of Addition to get the answer.

$$-5 - +4 = -5 + -4 = -9$$

3. Change the sign of the second number.

MULTIPLICATION AND DIVISION

The rules are the same for both multiplication and division.

If the signs are alike, the answer will be positive.

If the signs are different, the answer will be negative.

$$+4 \times +3 = +12$$

$$-14 \div -2 = +7$$

$$+2 \times -5 = -10$$

$$-32 \div +4 = -8$$