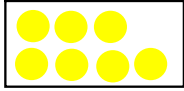


Model Integer Addition

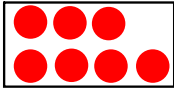
<p>Key</p> <p>● = 1</p> <p>● = -1</p> <p>● + ● = 0</p>	<p>REMEMBER</p> <p>Removing a zero from an expression does not change the expression's value.</p>
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Aug 30-7:28 PM

When you model adding numbers with the same sign, you can count the total number of chips to find the sum.



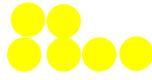
$3 + 4 = 7$




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


Model each expression:

a. $2 + 4$



b. $-2 + (-4)$

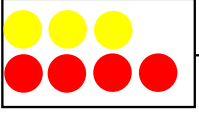




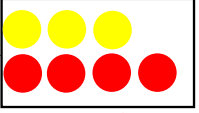
Aug 30-7:38 PM


When you model adding numbers with different signs, you cannot count the chips to find their sums.

When you model adding a positive and a negative number, you need to remove all of the neutral pairs that you can find—that is, all the pairs of 1 red chip and 1 yellow chip. These pairs have a value of zero, so they do not affect the sum.



→






$3 + (-4) = \square$ $3 + (-4) = -1$

Aug 30-7:50 PM

Model each expression:

a. $4 + (-6)$

b. $-5 + 2$



Aug 30-8:12 PM

1. Will $8 + (-3)$ and $-3 + 8$ give the same answer? Why or why not?
2. If you have more red chips than yellow chips in a group, is the sum of the chips positive or negative?
3. If you have more yellow chips than red chips in a group, is the sum of the chips positive or negative?
4. Make a rule for the sign of the answer when negative and positive chips are added. Give examples.

Aug 30-8:19 PM

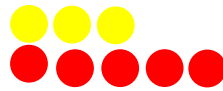
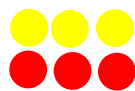
Use integer chips to model and solve each addition problem:

1. $4 + (-7)$

2. $-5 + (-4)$


3. $-5 + 1$

Write the addition problems modeled below:

Aug 30-8:21 PM

Rules for Adding Integers



Adding:
 The sum of two positive integers is a positive integer.
 Ex: $(+2) + (+3) = +5$

The sum of two negative integers is a negative integer.
 Ex: $(-2) + (-4) = -6$

When adding integers of the opposite signs, we take their absolute values, subtract the smaller from the larger, and give the result the sign of the integer with the larger absolute value.

Ex: $10 + (-4)$
 Absolute values: 10 and 4
 $10 - 4 = 6$

Ex: $(-22) + 11$
 Absolute values: 22 and 11
 Subtract the smaller absolute value from the larger absolute value:
 $22 - 11 = 11$

Since the larger absolute value was 22, we give the result the same sign as -22:
 $(-22) + 11 = -11$

Oct 31 - 3:12 PM


Adding Integers

Solve the following:

$(-2) + (-3) = \underline{\hspace{2cm}}$	$(+5) + (+6) = \underline{\hspace{2cm}}$
$(-7) + (-2) = \underline{\hspace{2cm}}$	$(+9) + (-1) = \underline{\hspace{2cm}}$
$(+2) + (-4) = \underline{\hspace{2cm}}$	$(-5) + (-3) = \underline{\hspace{2cm}}$
$(-7) + (+3) = \underline{\hspace{2cm}}$	$(-4) + (+4) = \underline{\hspace{2cm}}$

Oct 31 - 3:02 PM

Rules for Subtracting Integers



Subtracting:
 Subtracting an integer is the same as adding its opposite.
 In the following example, we converted the subtracted integer to its opposite and added the two integers.

Step 1: Write the equation:
 $(+12) - (-5) = \underline{\hspace{2cm}}$

Step 2: Convert the subtracted integer to its opposite:
 The subtracted integer is (-5). The opposite number is (+5).

Step 3: Add the two integers:
 $(+12) + (+5) = +17$

Nov 3 - 10:19 AM