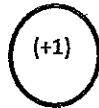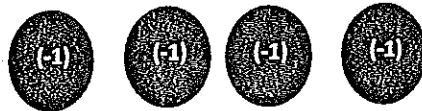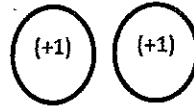# Adding and Subtracting Integers

You can use **models** to help you add and subtract integers.

White circles represent (+1). Shaded circles to represent (-1).

(+1)   (-1)

Modeling Expressions

(+1) (+1) (+1)   (+1) (+1)

(-1) (-1)   (-1) (-1) (-1) (-1)

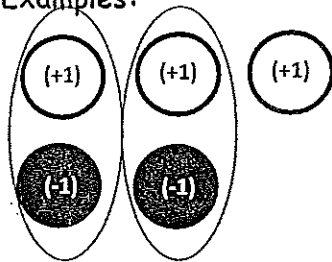What does this expression represent?   What does this expression represent?

$(+3) + (-2)$ $(+2) + (-4)$

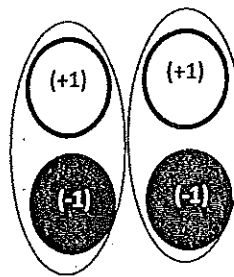**Zero Pairs**---When you combine two opposites, their sum is zero.

(+1) + (-1) = 0

Examples:

(+1) (+1) (+1)   What are we   (+1) (+1)   What are we
                 left with?   left with?
(-1) (-1)   (-1) (-1) (-1) (-1)

1 -2

Draw a model for each.

(5) + (-4)   (-3) + (7)   (-4) + (-3)

$+ + + + +$ $= 1$ $+ + + + + + +$ $- - - - - - -$

                              4 *Nothing pairs! -7

What happens if the operation is subtraction?

Subtracting is the same as adding the opposite. Model subtraction problems as addition problems.

(5) - (-4)   (-3) - (7)   (-4) - (-3)

$5 + (+4)$ $-3 + (-7)$ $-4 + (+3)$

$+ + + + +$ $- - - - -$
$+ + + +$ $- - - - -$ $+ + +$

9 -10 -1

You can also use a number line to add and subtract integers.
If a number is (+) move to the right. If a number is (-) move to the left.

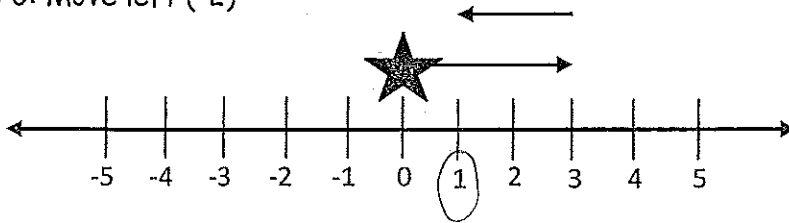Example: (3) + (-2)
        Step 1: Always START at ZERO!   = $\boxed{1}$
        Step 2: Move right (3)
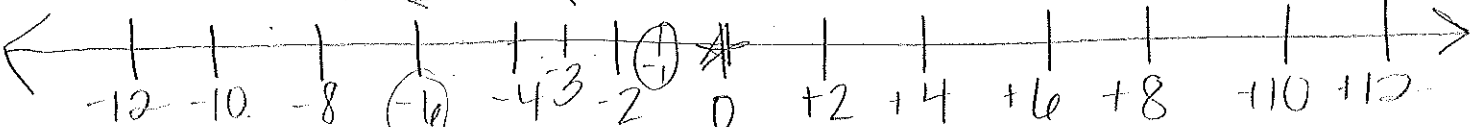   Step 3: Move left (-2)

-5 -4 -3 -2 -1 0 1 2 3 4 5

Let's Practice! Try these using a number line.

(-3) + (-2) = -6   (5) + (-6) = -1   (-7) + (4) = -3

-12 -10 -8 -6 -4 3 -2 0 +2 +4 +6 +8 +10 +12

You may choose either method you like to solve the following problems.

(4) + (-3)   (-3) - (-6)   (5) - (2) |−5| + |−3|

(-2) - (-5)   (-4) - (2)   (-8) + (-2)   (5) - |−2|

|−4| + (-4)   (2) - (-4)   (5) - (1) |−6| - |−3|