

# Subtracting Integers with Tiles

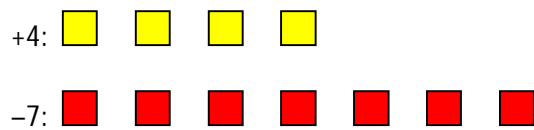
Recall that  $+1$  and  $-1$  combine to make a zero pair. We can use algebra tiles to model the subtraction of any two integers. There are two methods to subtracting integers with tiles

## Method 1: Writing the Subtraction Equation as an Addition Equation

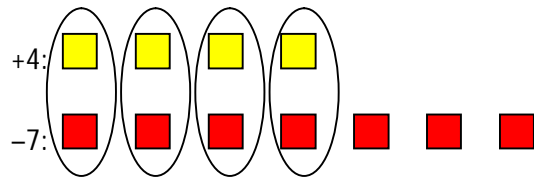
**Example:**  $(+4) - (+7)$

1. Rewrite the equation:  $(+4) + (-7)$

2. Now we just have to add the two integers, and we already know how to do that!



3. Circle the zero pairs.

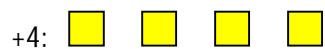


Three red tiles remain, so the solution is  $-3$ , and the subtraction equation is:  $(+4) - (+7) = -3$

## Method 2: Adding Zero Pairs

**Example:**  $(+4) - (+7)$

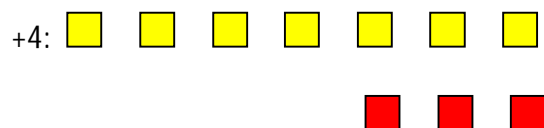
1. Model the first integer with tiles:



There are not enough tiles to take away  $+7$ . We would need 3 more yellow tiles in order to do this.

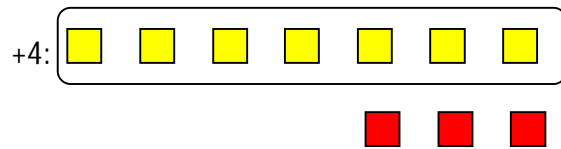
Remember, we can add zero pairs without changing the value! So, add 3 yellow tiles and 3 red tiles.

2. Add zero pairs.



By adding 0, the integer the tiles represent has not changed. Now we can take away  $+7$  tiles!

3. Subtract the second integer:

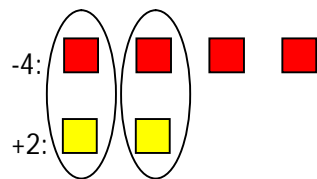


Three red tiles remain, so the solution is  $-3$ .

**Example:  $(-4) - (-2)$**

**Method 1**

$(-4) + (+2)$



Two red tiles remain, so the solution is  $-2$ .

**Example:  $(-3) - (+5)$**

**Method 1**

$(-3) + (-5)$

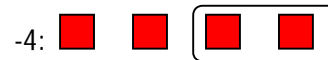


Combining the tiles we get:



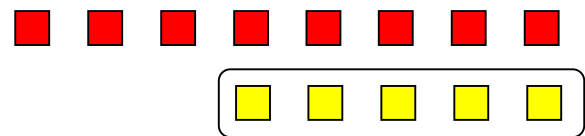
Eight red tiles remain, so the solution is  $-8$ .

**Method 2**



Two red tiles remain, so the solution is  $-2$ .

**Method 2**



Eight red tiles remain, so the solution is  $-8$ .