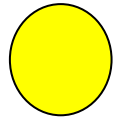


# Hands-On Activity

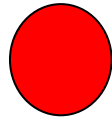
Complete this presentation and share your work with Mrs. Holderith upon completion.

Review: A zero pair can be added to any expression without changing its value. It is the same as adding zero to a number.

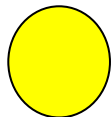
Sometimes, you add zero pairs in order to subtract.



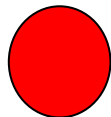
Represents +1



Represents -1



+



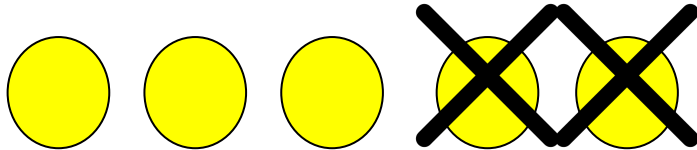
Represent a zero pair.

Step 1: Use counters to complete the subtraction of a positive integer.

a) Evaluate  $5 - 2$  and compare with  $5 + (-2)$ .

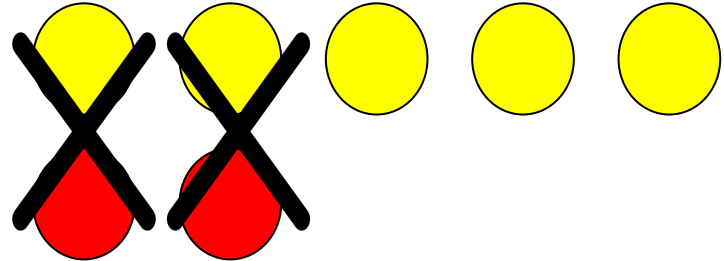
Fill in the two blanks below.

$$5 - 2 = \underline{\quad 3 \quad}$$



Start with 5 and remove 2.

$$5 + (-2) = \underline{\quad 3 \quad}$$



Start with 5.

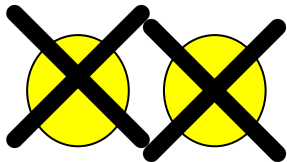
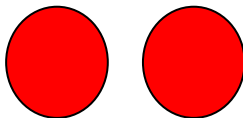
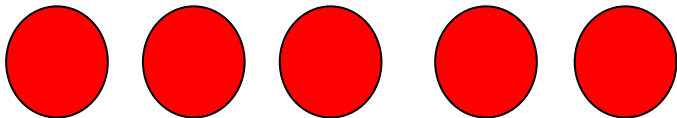
Add negative 2 and remove 2 zero pairs.

b) Evaluate  $-5 - 2$  and compare with  $-5 + (-2)$ .

Fill in the two blanks below.

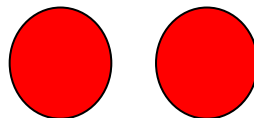
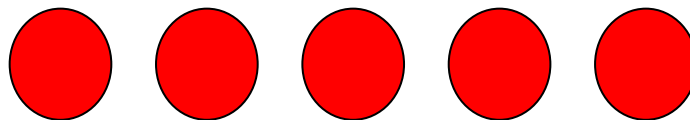
$$-5 - 2 = \underline{\quad -7 \quad}$$

$$-5 + (-2) = \underline{\quad -7 \quad}$$



Start with -5.

Add 2 zero pairs so that you can remove positive 2.

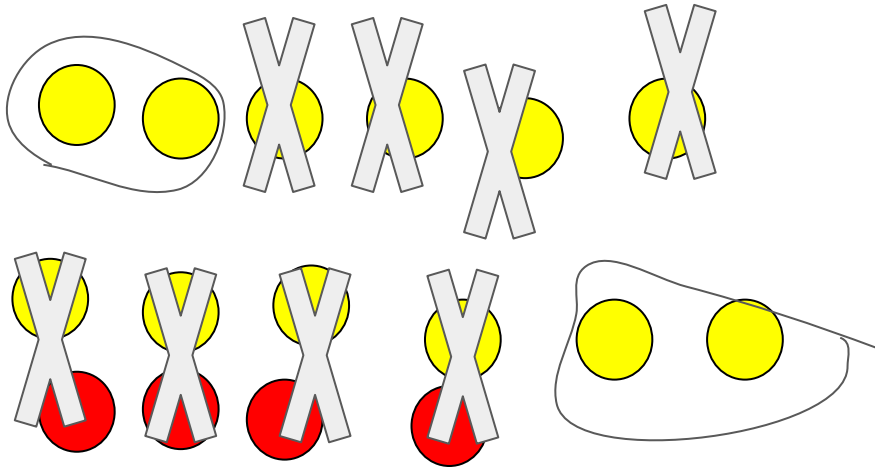


Start with -5 and add -2.

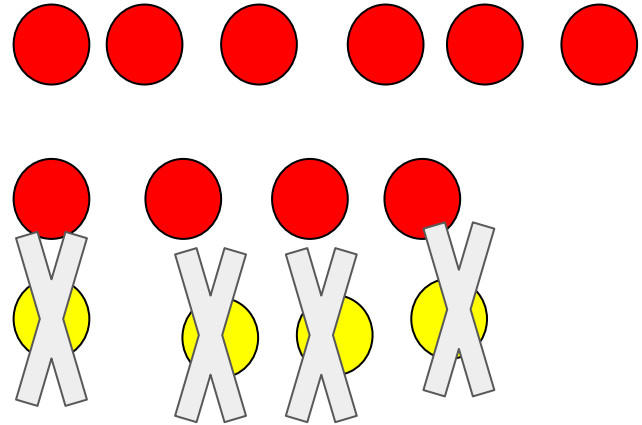
## Step 2: Use counters to evaluate each expression.

Use the provided counter chips at the bottom by right clicking on a chip, copying and pasting until you have the number needed to model the expression.

a)  $6 - 4$  and  $6 + (-4)$ .



b)  $-6 - 4$  and  $-6 + (-4)$ .

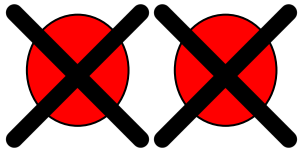
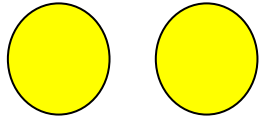
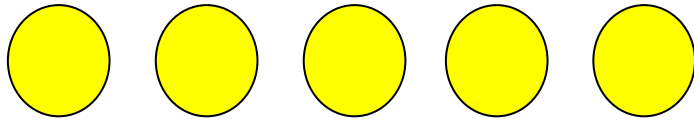


# Step 3: Use counters to complete the subtraction of a negative integer.

a) Evaluate  $5 - (-2)$  and compare with  $5 + 2$ .

Fill in the two blanks below.

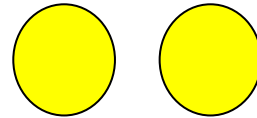
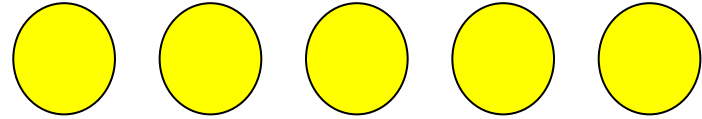
$$5 - (-2) = \underline{\quad 7 \quad}$$



Start with 5.

Add 2 zero pairs so that you can remove -2.

$$5 + 2 = \underline{\quad 7 \quad}$$

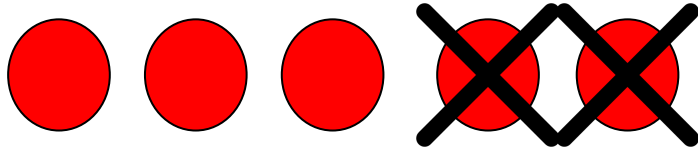


Start with 5 and add 2.

b) Evaluate  $-5 - (-2)$  and compare with  $-5 + 2$ .

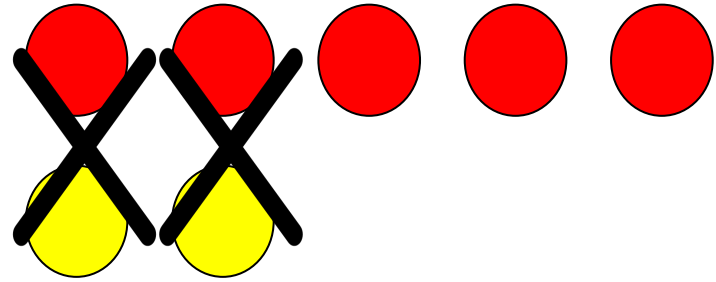
Fill in the two blanks below.

$$-5 - (-2) = \underline{\quad -3 \quad}$$



Start with  $-5$  and remove  $-2$ .

$$-5 + 2 = \underline{\quad -3 \quad}$$



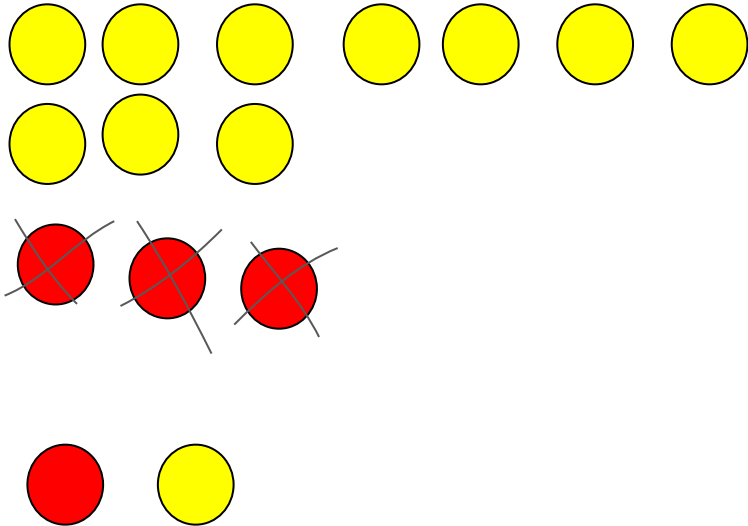
Start with  $-5$ .

Add 2 and remove 2 zero pairs.

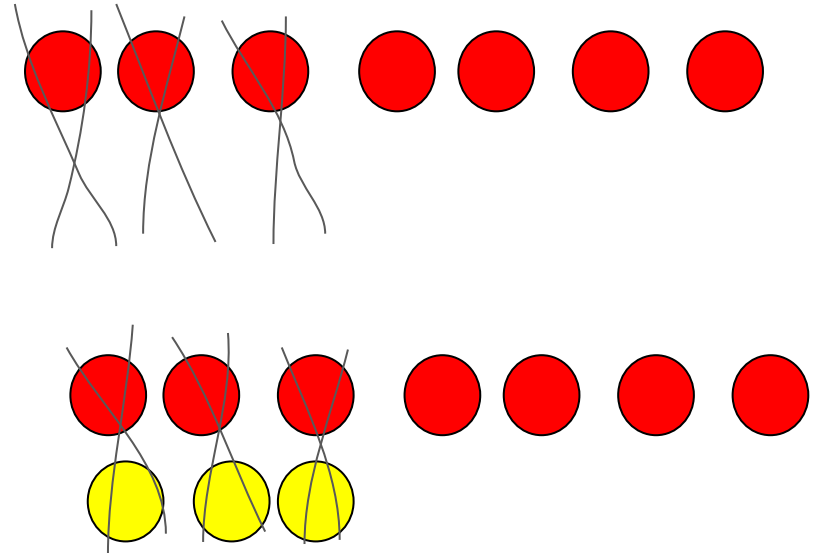
## Step 4: Use counters to evaluate each expression.

Use the provided counter chips at the bottom left by clicking on a chip, copying and pasting until you have the number needed to model the expression.

a)  $7 - (-3)$  and  $7 + 3$ .



b)  $-7 - (-3)$  and  $-7 + 3$ .





## Math Journal

Based on your results from Steps 1 - 4, explain how you can subtract integers.

You can subtract integers by keeping the first number, swapping the subtraction sign with an addition one, turn the last number opposite ( EX:14 becomes -14 and -14 becomes 14).