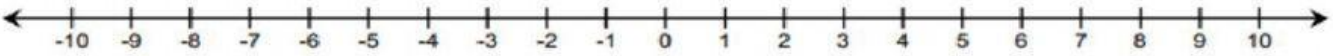
Exercise 1: Real-World Introduction to Integer Addition

Answer the questions below.

a. Suppose you received $10 from your grandmother for your birthday. You spent $4 on snacks. Using addition, how would you write an equation to represent this situation?

$$\square + \square = \square$$

b. How would you model your equation on a number line to show your answer?



LIVEWORKSHEETS

Complete the steps to find the sum of $-2 + 3$ by filling in the blanks. Model the equation using straight arrows called *vectors* on the number line below.

a. Place the tail of the arrow on _____.

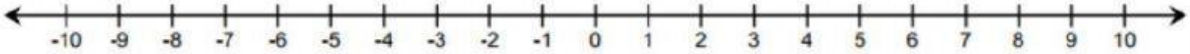
b. Draw the arrow 2 units to the left of 0, and stop at _____. The direction of the arrow is to the _____ since you are counting down from 0.

c. Start the next arrow at the end of the first arrow, or at _____.

d. Draw the second arrow _____ units to the right since you are counting up from -2.

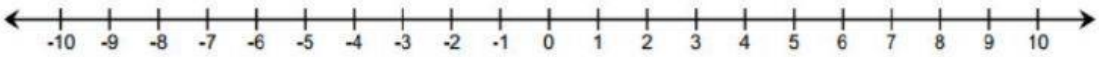
e. Stop at _____.

f. Circle the number at which the second arrow ends to indicate the ending value.



LIVEWORKSHEETS

g. Repeat the process from parts (a)–(f) for the expression $3 + (-2)$.

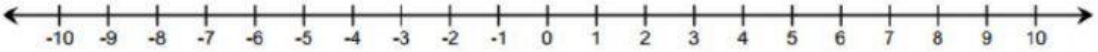


h. What can you say about the sum of $-2 + 3$ and $3 + (-2)$? Does order matter when adding numbers? Why or why not?

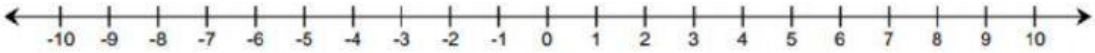
LIVEWORKSHEETS

Use the number line to find the sum.

a. $-6 + 4 =$ ☐

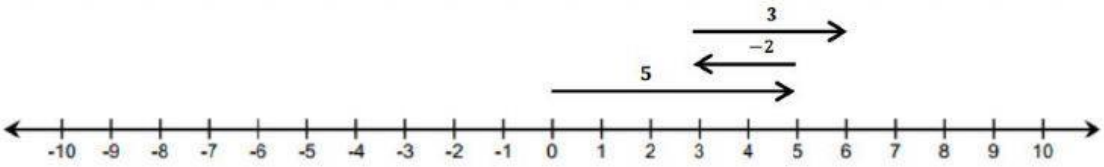


b. $3 + (-8) =$ ☐



LIVEWORKSHEETS

Find the sum of the integers represented in the diagram below.



a. Write an equation to express the sum.

$\square + \square + \square = \square$

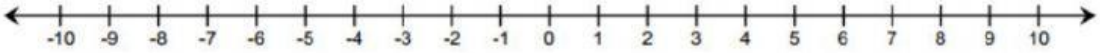
e. Would the sum change if we changed the order in which we add the numbers, for example, $(-2) + 3 + 5$?

LIVEWORKSHEETS

Represent Problems 1–3 using both a number line diagram and an equation.

1. David and Victoria are playing the Integer Card Game. David drew three cards, -6, 12, and -4. What is the sum of the cards in his hand?

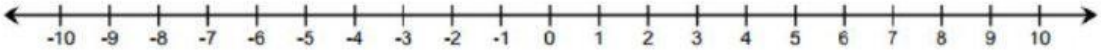
$\square + \square + \square = \square$



2. In the Integer Card Game, you drew the cards, 2, 8, and -11. Your partner gave you a 7 from his hand.

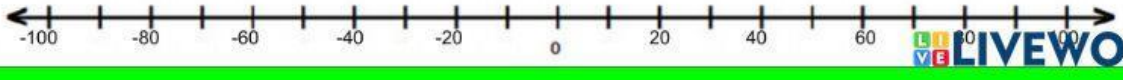
   a. What is your total?

$\square + \square + \square + \square = \square$



3. If a football player gains 40 yards on a play, but on the next play, he loses 10 yards, what would his total yards be for the game if he ran for another 60 yards?

$\square + \square + \square = \square$



LIVEWORKSHEETS