

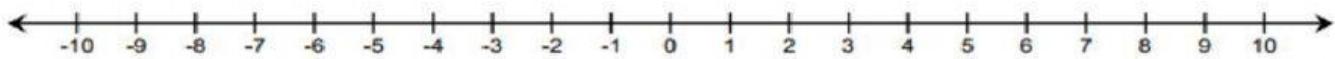
Exercise 1: Real-World Introduction to Integer Addition

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?

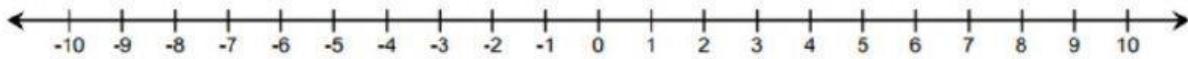
$$\boxed{\quad} + \boxed{\quad} = \boxed{\quad}$$

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

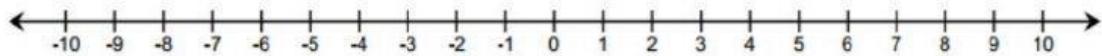


Complete the steps to find the sum of $-2 + 3$ by filling in the blanks. Model the equation using straight arrows called *vectors* on the number line below.

- 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. 



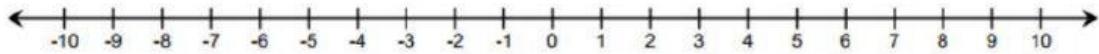
g. Repeat the process from parts (a)–(f) for the expression $3 + (-2)$.



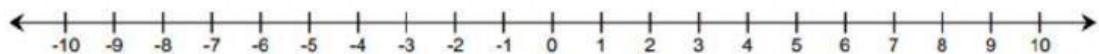
h. What can you say about the sum of $-2 + 3$ and $3 + (-2)$? Does order matter when adding numbers? Why or why not?

Use the number line to find the sum.

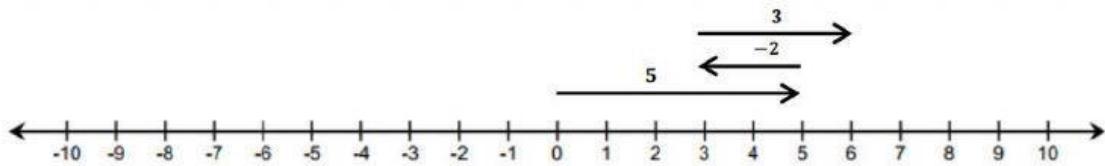
a. $-6 + 4 =$



b. $3 + (-8) =$



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



a. Write an equation to express the sum.

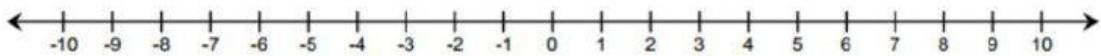
$$\boxed{} + \boxed{} + \boxed{} = \boxed{}$$

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

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?

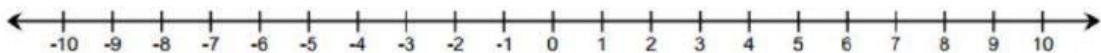
$$\boxed{\quad} + \boxed{\quad} + \boxed{\quad} = \boxed{\quad}$$



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?

$$\boxed{\quad} + \boxed{\quad} + \boxed{\quad} + \boxed{\quad} = \boxed{\quad}$$



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?

$$\boxed{\quad} + \boxed{\quad} + \boxed{\quad} = \boxed{\quad}$$

