

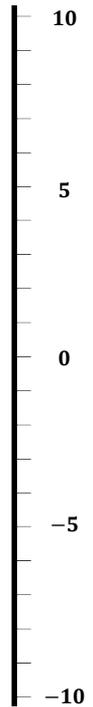
Lesson 3: Understanding Addition of Integers

Problem Set

- Below is a table showing the change in temperature from morning to afternoon for one week.
 - Use the vertical number line to help you complete the table. As an example, the first row is completed for you.

Change in Temperatures from Morning to Afternoon

Morning Temperature	Change	Afternoon Temperature	Equation
1°C	Rise of 3°C	4°C	$1 + 3 = 4$
2°C	Rise of 8°C		
-2°C	Fall of 6°C		
-4°C	Rise of 7°C		
6°C	Fall of 9°C		
-5°C	Fall of 5°C		
7°C	Fall of 7°C		



- Do you agree or disagree with the following statement: “A rise of -7°C ” means “a fall of 7°C ”? Explain. (Note: No one would ever say, “A rise of -7 degrees”; however, mathematically speaking, it is an equivalent phrase.)

For Problems 2–3, refer to the Integer Game.

- Terry selected two cards. The sum of her cards is -10 .
 - Can both cards be positive? Explain why or why not.
 - Can one of the cards be positive and the other be negative? Explain why or why not.
 - Can both cards be negative? Explain why or why not.
- When playing the Integer Game, the first two cards you selected were -8 and -10 .
 - What is the value of your hand? Write an equation to justify your answer.
 - For part (a), what is the distance of the sum from -8 ? Does the sum lie to the right or left of -8 on the number line?
 - If you discarded the -10 and then selected a 10 , what would be the value of your hand? Write an equation to justify your answer.

4. Given the expression $67 + (-35)$, can you determine, without finding the sum, the distance between 67 and the sum? Is the sum to the right or left of 67 on the number line?
5. Use the information given below to write an equation. Then create an *arrow diagram* of this equation on the number line provided below.

The sum of -4 and a number is 12 units to the right of -4 on a number line.

