1. Draw a number line and create a scale for the number line in order to plot the points \(-2, 4, \text{ and } 6\).
   a. Graph each point and its opposite on the number line.
   b. Explain how you found the opposite of each point.

2. Carlos uses a vertical number line to graph the points \(-4, \ -2, 3, \text{ and } 4\). He notices that \(-4\) is closer to zero than \(-2\). He is not sure about his diagram. Use what you know about a vertical number line to determine if Carlos made a mistake or not. Support your explanation with a number line diagram.

3. Create a scale in order to graph the numbers \(-12 \text{ through } 12\) on a number line. What does each tick mark represent?

4. Choose an integer between \(-5 \text{ and } -10\). Label it \(R\) on the number line created in Problem 3 and complete the following tasks.
   a. What is the opposite of \(R\)? Label it \(Q\).
   b. State a positive integer greater than \(Q\). Label it \(T\).
   c. State a negative integer greater than \(R\). Label it \(S\).
   d. State a negative integer less than \(R\). Label it \(U\).
   e. State an integer between \(R\) and \(Q\). Label it \(V\).

5. Will the opposite of a positive number always, sometimes, or never be a positive number? Explain your reasoning.

6. Will the opposite of zero always, sometimes, or never be zero? Explain your reasoning.

7. Will the opposite of a number always, sometimes, or never be greater than the number itself? Explain your reasoning. Provide an example to support your reasoning.

1. Express each situation as an integer
   a. A gain of 56 points in a game
   b. A fee charged of $2
   c. A temperature of 32 degrees below zero
   d. A 56 yard loss in a football game
   e. The freezing point of water in Celsius
   f. A $12,500 deposit
For Questions 2–5, use the thermometer to the right.

2. Each sentence is stated incorrectly. Rewrite the sentence to correctly describe each situation.
   a. The temperature is —10 degrees Fahrenheit below zero.
   b. The temperature is —22 degrees Celsius below zero.

3. Mark the integer on the thermometer that corresponds to the temperature given.
   a. 70°F
   b. 12°C
   c. 110°F
   d. —4°C

4. The boiling point of water is 212°F. Can this thermometer be used to record the temperature of a boiling pot of water? Explain.

5. Kaylon shaded the thermometer to represent a temperature of 20 degrees below zero Celsius as shown in the diagram. Is she correct? Why or why not? If necessary, describe how you would fix Kaylon's shading.

   1. Write an integer to match the following descriptions.
      a. A debit of $40
      b. A deposit of $225
      c. 14,000 feet above sea level
      d. A temperature increase of 40°F
      e. A withdrawal of $225
      f. 14,000 feet below sea level

For Problems 2–4, read each statement about a real-world situation and the two related statements in parts (a) and (b) carefully. Circle the correct way to describe each real-world situation; possible answers include either (a), (b), or both (a) and (b).

2. A whale is 600 feet below the surface of the ocean.
   a. The depth of the whale is 600 feet from the ocean's surface.
   b. The whale is —600 feet below the surface of the ocean.

3. The elevation of the bottom of an iceberg with respect to sea level is given as —125 feet.
   a. The iceberg is 125 feet above sea level.
   b. The iceberg is 125 feet below sea level.

4. Alex’s body temperature decreased by 2°F.
   a. Alex's body temperature dropped 2°F.
   b. The integer —2 represents the change in Alex's body temperature in degrees Fahrenheit.

5. A credit of $35 and a debit of $40 are applied to your bank account.
   a. What is an appropriate scale to graph a credit of $35 and a debit of $40? Explain your reasoning.
   b. What integer represents “a credit of $35” if zero represents the original balance? Explain.
   c. What integer describes “a debit of $40” if zero represents the original balance? Explain.
   d. Based on your scale, describe the location of both integers on the number line.
   e. What does zero represent in this situation?
1. Find the opposite of each number and describe its location on the number line.
   a. \(-5\)
   b. \(10\)
   c. \(-3\)
   d. \(15\)

2. Write the opposite of each number and label the points on the number line.
   b. Point B: The opposite of \(-4\).
   c. Point C: The opposite of \(-7\).
   d. Point D: The opposite of 0.
   e. Point E: The opposite of 2.

3. Study the first example. Write the integer that represents the opposite of each real-world situation. In words, write the meaning of the opposite.
   a. An atom's positive charge of 7
   b. A deposit of $25
   c. 3,500 feet below sea level
   d. A rise of 45°C
   e. A loss of 13 pounds

4. On a number line, locate and label a credit of $38 and a debit for the same amount from a bank account. What does zero represent in this situation?

5. On a number line, locate and label 40°C below zero and 40°C above zero. What does zero represent in this situation?

1. Read each description carefully and write an equation that represents the description.
   a. The opposite of negative seven
   b. The opposite of the opposite of twenty-five
   c. The opposite of fifteen
   d. The opposite of negative thirty-six

2. Jose graphed the opposite of the opposite of 3 on the number line. First, he graphed point \(P\) on the number line 3 units to the right of zero. Next, he graphed the opposite of \(P\) on the number line 3 units to the left of zero and labeled it \(K\). Finally, he graphed the opposite of \(K\) and labeled it \(Q\).

   \[K \quad P \quad 0 \quad Q\]

   a. Is his diagram correct? Explain. If the diagram is not correct, explain his error and correctly locate and label point \(Q\).
   b. Write the relationship between the points:
      \(P \text{ and } K\)
      \(K \text{ and } Q\)
      \(P \text{ and } Q\)

3. Read each real-world description. Write the integer that represents the opposite of the opposite. Show your work to support your answer.
   a. A temperature rise of 15 degrees Fahrenheit
   b. A gain of 55 yards
   c. A loss of 10 pounds
   d. A withdrawal of $2,000
4. Write the integer that represents the statement. Locate and label each point on the number line.
   a. The opposite of a gain of 6
   b. The opposite of a deposit of $10
   c. The opposite of the opposite of 0
   d. The opposite of the opposite of 4
   e. The opposite of the opposite of a loss of 5

1. Write the opposite of each number.
   a. \( \frac{10}{7} \)
   b. \( -\frac{5}{3} \)
   c. 3.82
   d. \(-6\frac{1}{2}\)

2. Choose a non-integer between 0 and 1. Label it point A and its opposite point B on the number line. Write values below the points.

   \[
   -1 \quad 0 \quad 1
   \]

   a. To draw a scale that would include both points, what could be the length of each segment?
   b. In words, create a real-world situation that could represent the number line diagram.

3. Choose a value for point P that is between -6 and -7.
   a. What is the opposite of P?
   b. Use the value from part (a), and describe its location on the number line in relation to zero.
   c. Find the opposite of the opposite of point P. Show your work and explain your reasoning.

4. Locate and label each point on the number line. Use the diagram to answer the questions.

   *Jill lives one block north of the pizza shop.*

   *Janette's house is \( \frac{1}{3} \) block past Jill's house.*

   *Jeffrey and Olivia are in the park \( \frac{4}{3} \) blocks south of the pizza shop.*

   *Jenny's Jazzy Jewelry Shop is located halfway between the pizza shop and the park.*

   a. Describe an appropriate scale to show all the points in this situation.
   b. What number represents the location of Jenny's Jazzy Jewelry Shop? Explain your reasoning.