

**Problem Set**

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  $40^{\circ}\text{F}$  \_\_\_\_\_
  - 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  $2^{\circ}\text{F}$ .
  - a. Alex’s body temperature dropped  $2^{\circ}\text{F}$ .
  - 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?