Lesson 14 Practice Problems

1. a. How could you distinguish between traveling west at 5 miles per hour and traveling east at 5 miles per hour without using the words “east” and “west”?

   b. Four people are cycling. They each start at the same point. (0 represents their starting point.) Plot their finish points after five seconds of cycling on a number line

      - Lin cycles at 5 meters per second
      - Diego cycles at -4 meters per second
      - Elena cycles at 3 meters per second
      - Noah cycles at -6 meters per second

2. A weather station on the top of a mountain reports that the temperature is currently 0°C and has been falling at a constant rate of 3°C per hour. If it continues to fall at this rate, find each indicated temperature. Explain or show your reasoning.

   a. What will the temperature be in 2 hours?

   b. What will the temperature be in 5 hours?

   c. What will the temperature be in half an hour?

   d. What was the temperature 1 hour ago?

   e. What was the temperature 3 hours ago?

   f. What was the temperature 4.5 hours ago?

3. Fill in the missing numbers in these equations

   a. $-2 \cdot (-4.5) = ?$

   b. $(-8.7) \cdot (-10) = ?$

   c. $(-7) \cdot ? = 14$

   d. $? \cdot (-10) = 90$

4. a. Here are the vertices of rectangle $FROG$: $(-2, 5), (-2, 1), (6, 5), (6, 1)$.
   Find the perimeter of this rectangle. If you get stuck, try plotting the points on a coordinate plane.

   b. Find the area of the rectangle $FROG$.

   c. Here are the coordinates of rectangle $PLAY$:
   $(-11, 20), (-11, -3), (-1, 20), (-1, -3)$. Find the perimeter and area of this rectangle. See if you can figure out its side lengths without plotting the points.

(From Unit 7, Lesson 10.)

5. Tyler orders a meal that costs $15.

   a. If the tax rate is 6.6%, how much will the sales tax be on Tyler's meal?

   b. Tyler also wants to leave a tip for the server. How much do you think he should pay in all? Explain your reasoning.

(From Unit 6, Lesson 7.)