Real-World Connections
The First Oil Well

In 1859, Edwin Drake drilled the world's first oil well, beside the Oil Creek near Titusville, Pennsylvania. Almost overnight, towns sprang up in the area and people came from everywhere to be a part of the oil boom. Until 1901, Pennsylvania produced half of the world's oil.

1. Before Drake drilled his well, about 5 gallons of oil could be collected aboveground each day near Oil Creek.
   Drake's well produced 210 times as much oil each day as could be collected above ground.

   a. Given that there are 42 gallons in one barrel, find the daily production in barrels of Drake's well.

   b. Let *x* represent the number of days of production. Create a table for 1, 2, 3, 4, and *x* days. Write an expression for the number of barrels of oil produced in *x* days.

   c. How many days did it take the well to produce 500 barrels of oil? How do you know?

2. In 3 days, Drake's well produced oil worth $1,500. Let *m* represent the amount of money earned. Create a table for the amount of money earned in 1, 2, 3, 4, and *m* days. Write an expression for the amount of money earned in *m* days. What was the value of the oil produced in one week? How much money was earned in 50 days?

3. The surface of the ground at Drake's well is 1,200 feet above sea level. To reach oil, Drake first drilled through gravel to a point 1,168 feet above sea level. He then drilled an additional 38 feet through shale. Find the total depth of the well.

4. In Drake's day, the town of Titusville had 10,380 people. There were 2350 more permanent residents than temporary residents. Write an equation to determine the number of temporary residents, *t*. What was the number of permanent residents? What was the number of temporary residents?