# Chapter 2 Word Problem Practice
## *Linear Relations and Functions*

**1. WORK RATE** The linear equation $n = 10t$ describes $n$, the number of origami boxes that Holly can fold in $t$ hours. How many boxes can Holly fold in 3 hours?

**2. BASKETBALL** Tony tossed a basketball. Below is a graph showing the height of the basketball as a function of time. Is this the graph of a linear function? Explain.
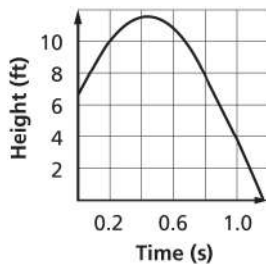


**3. PROFIT** Paul charges people $25 to test the air quality in their homes. The device he uses to test air quality cost him $500. Write an equation that describes Paul's net profit as a function of the number of clients he gets. How many clients does he need to break even?
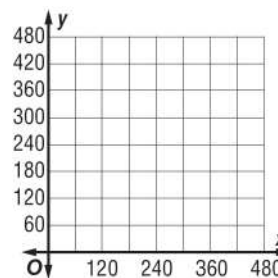
**4. RAMP** A ramp is described by the equation $5x + 7y = 35$. What is the area of the shaded region?
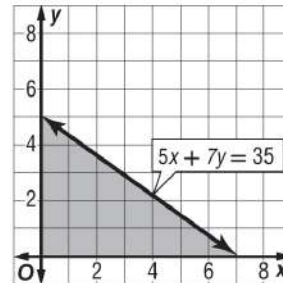


**5. SWIMMING POOL** A swimming pool is shaped as shown below. The total perimeter is 500 feet.
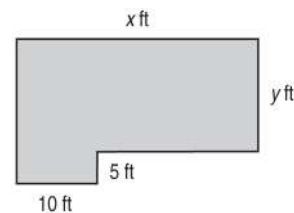


**a.** Write an equation that relates $x$ and $y$.

**b.** Write the linear equation from part **a** in standard form.

**c.** Graph the equation.



**d.** Olympic swimming pools are 164 feet long. If this pool is an Olympic pool, what is the value of $y$?