Function Notation

1. Refer back to #2 in the Day 9 Activity, *Writing Expressions*. You wrote an expression for the cost of the materials of the box using *s* as the length of the side of the box in inches.

   a. Write an equation based on your expression with function notation. Use *C* to represent the cost in dollars.

   b. What is the independent variable?

   c. What is the dependent variable?

Function Notation in Context

The amount of money owed, *a*, by Sarah on her student loans is $32,000. She pays off her loan at a rate of $100 per month, *m*. The equation that illustrates this scenario is
$$a(m) = 32000 - 100m$$

2. Circle the correct answers in the paragraph below.

   a. In the notation *a(m)*, *m* represents the [**independent variable** or **dependent variable**] and *a(m)* represents [**independent variable** or **dependent variable**].

   b. The general form of this notation would mean that [**dependent(independent)** or **independent(dependent)**].

   c. Specifically in this situation, given the [**amount owed** or **time in months**] you can predict the [**amount owed** or **time in months**]

3. Fill in the following table using the equation from #2:

What to find	The notation in the first column means…	Solution	What does it mean in context?
a(1)	m=1 a=1		
a(25)	m=25 a=25		
a(m)=0	m=0 a=0		

4. Gordy needs to find a babysitter for his grandson. The cost, *C*, in dollars, for the sitter is *C(h)* = 25 + 6*h*, where *h* is the number of hours babysitting.

   a. Independent variable: _____

   b. Dependent variable: _____

   c. Solve C(h)=55. **Show your work.**

   d. Describe the meaning of the solution from **part c** in the context of the problem.

   e. Find *C*(7). **Show your work**.

   f. Describe the meaning of the solution from **part e** in the context of the problem.