

Unit 4 Lesson 5: Using Function Notation to Describe Rules (Part 2)

1 Make It True (Warm up)

Student Task Statement

Consider the equation $q = 4 + 0.8p$.

1. What value of q would make the equation true when:
 - a. p is 7?
 - b. p is 100?

2. What value of p would make the equation true when:
 - a. q is 12?
 - b. q is 60?

Be prepared to explain or show your reasoning.

2 Data Plans

Student Task Statement

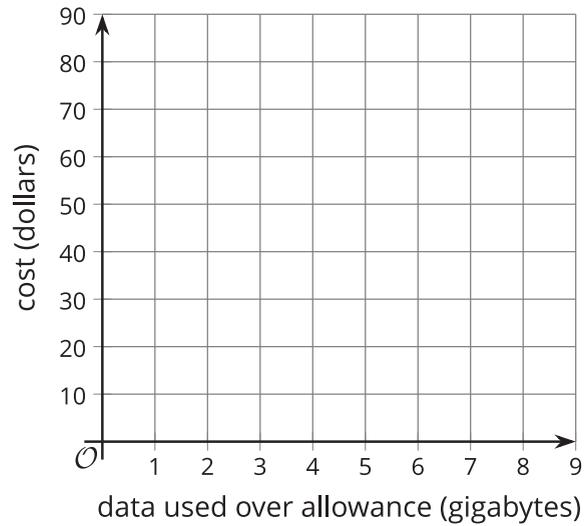
A college student is choosing between two data plans for her new cell phone. Both plans include an allowance of 2 gigabytes of data per month. The monthly cost of each option can be seen as a function and represented with an equation:

- Option A: $A(x) = 60$
- Option B: $B(x) = 10x + 25$

In each function, the input, x , represents the gigabytes of data used *over* the monthly allowance.

1. The student decides to find the values of $A(1)$ and $B(1)$ and compare them. What are those values?
2. After looking at some of her past phone bills, she decided to compare $A(7.5)$ and $B(7.5)$. What are those values?

- Describe each data plan in words.
- Graph each function on the same coordinate plane. Then, explain which plan you think she should choose.



- The student only budgeted \$50 a month for her cell phone. She thought, "I wonder how many gigabytes of data I would have for \$50 if I go with Option B?" and wrote $B(x) = 50$. What is the answer to her question? Explain or show how you know.

3 Function Notation and Graphing Technology (Optional)

Student Task Statement

The function B is defined by the equation $B(x) = 10x + 25$. Use graphing technology to:

1. Find the value of each expression:

$B(6)$

$B(2.75)$

$B(1.482)$

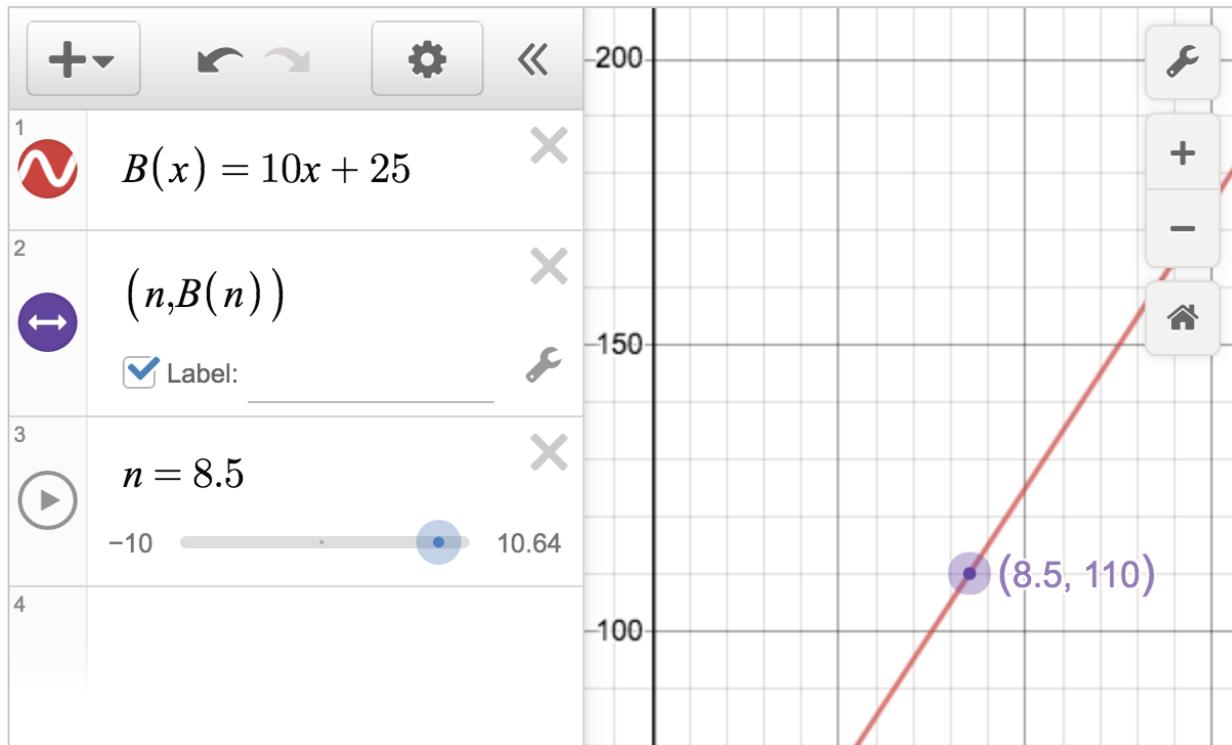
2. Solve each equation:

$B(x) = 93$

$B(x) = 42.1$

$B(x) = 116.25$

Activity Synthesis



Images for Activity Synthesis

