Name: _____ Date: _____ Period: _____
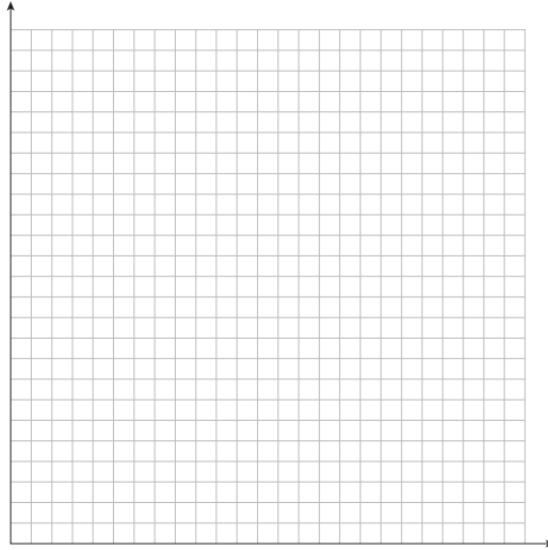
Functions & Relations Task

Mr. Allen loves Dr. Pepper. Absolutely loves it. While at the store, Mr. Allen has budgeted $35 to spend on soda and each bottle of Dr. Pepper is $2. Assume tax is already included in all of the prices.

1. Write a function for the total cost (not the money left).

2. Identify the independent and dependent variables. Justify your reasoning.

3. State a reasonable domain and range given the context of the problem.

   Domain:

   Range:

4. How do you know where to stop the domain? Why is this reasonable?

5. Is this function discrete or continuous? Be specific & justify your reasoning!

6. Evaluate *B(8)*. What is this as an ordered pair? What does this point represent in the context of the problem?

7. Create a table to represent all practical values for this function. (You may want to make your table horizontal to have enough space.)

8. Graph the data on the given graph. Be sure to label your x & y axis with units and choose an appropriate scale so that ALL of your data points fit the graph!
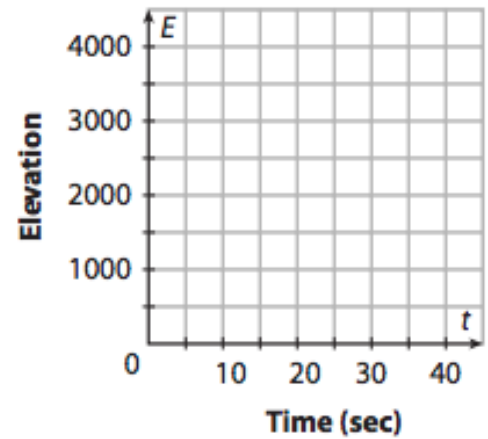
9. A snowboarder's elevation, in feet, can be represented by the function $E(t) = 3000 - 70t$, where t is in seconds.

a. Make a table for this situation. Pick your own values for t.

t	$E(t)$

b. Graph the function.

c. Find the domain and range.

d. Find the elevation of the snowboarder after 30 seconds.

10. Review: Graph a function that has a

domain of all real numbers and a range of $y \leq 2$