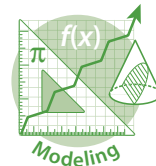


Name: _____

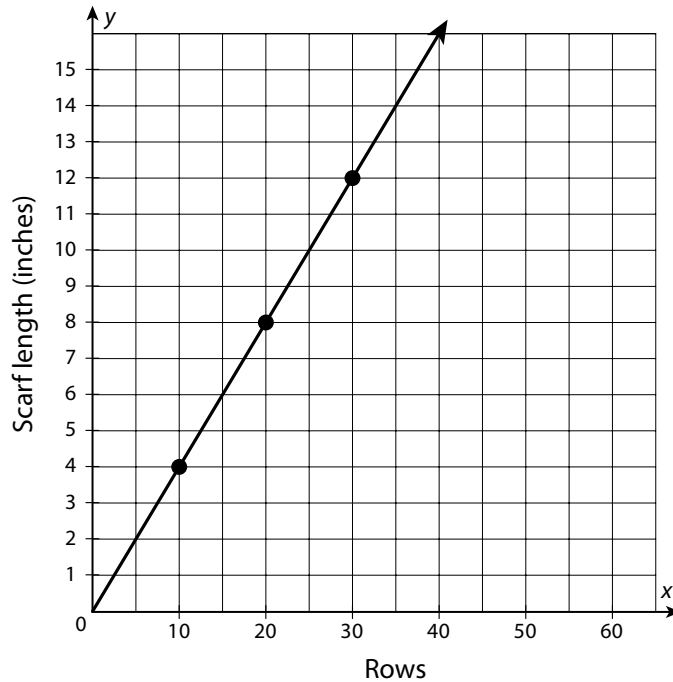
Date: _____

Conceptual Activity: Knitting a Scarf

While knitting a scarf, Grant wanted to check that his stitches were even by measuring the length of the unfinished scarf after each set of 10 rows. The first time he measured it, the scarf was 4 inches long. The second time he measured it, the scarf was 8 inches long. The third time he measured it, the scarf was 12 inches long. The following graph shows this relationship between the number of rows and the length of the scarf.



SMP	
1	2
3	4 ✓
5	6
7 ✓	8



Conceptual Activity: Knitting a Scarf

Exploration Questions

- a. What do you notice about the graph?

- b. What do you wonder about the graph?

- c. In your own words, explain what “rate of change” means.

- d. The scarf increased in length by 4 inches from row 10 to row 20. It increased in length by the same amount from row 20 to row 30. Will the length of the scarf change by the same amount each time Grant adds 10 rows? How do you know?

- e. Predict what the length of the scarf will be at 40 rows.

- f. The slope of the line in the graph is $\frac{4}{10}$. How is this related to the increase in the length of the scarf as more rows are added?

- g. Consider these two descriptions of the rate at which the length of the scarf increases:
 - The scarf grows by 4 inches every 10 rows.
 - The scarf grows by $\frac{4}{10}$ of an inch every row.Which is better? Why?