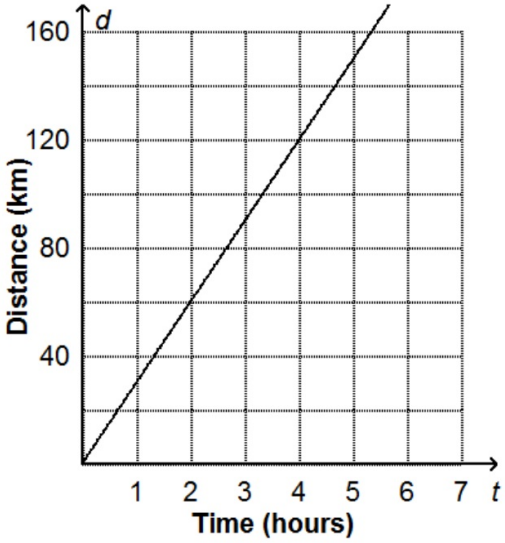
Name .....

Directions: Show your work for each question for credit. This review will be counted as a quiz for the 2nd marking period. Please use your notes, textbook, tests, quizzes, and previous spiral review assignments to help you solve the following problems.

_____ **1.** The graph shows a proportional relationship. Use the graph to identify the unit rate.



a. 30 hours per kilometer
b. 60 kilometers per hour
c. 30 kilometers per hour
d. $\frac{3}{2}$ kilometers per hour

_____ **2.** The cost C, in dollars, of a prepaid cell phone call is proportional to the time t, in minutes, that the call lasts. The equation that represents this relationship for carrier A is $C = 0.15t$. The table shows the relationship for carrier B. Which carrier has a lower unit rate?

Time (minutes)	Cost (dollars)
2	0.24
5	0.60
10	1.20
30	3.60

a. Carrier A
b. Carrier B
c. Carrier A and carrier B have the same unit rate.
d. The relationship cannot be determined.

_____ **3.** Write the quotient $\frac{6.25 \times 10^{-6}}{12.5}$ in scientific notation.

a. 5×10^{-7}
b. 0.5×10^{-6}
c. 2×10^{-6}
d. 2×10^{6}

_____ **4.** How many solutions does the equation $5x + 17 = 4(3x - 1)$ have?

a. Infinitely many solutions
b. One solution
c. No solutions
d. The number of solutions cannot be determined.

5. An office supplies store sells two different brands of notebooks. The cost C, in dollars, is proportional to the number n of brand A notebooks purchased. The equation that represents this relationship is $C = 1.29n$.

The table shows the proportional relationship between the number of brand B notebooks purchased and the cost.

Notebooks	Cost (dollars)
3	4.47
5	7.45
8	11.92
12	17.88

Which brand of notebook is the better buy? Explain your reasoning.

6. Which of the following tables represents a linear relationship?

Table A

x	y
−1	−24
2	48
4	90
8	192

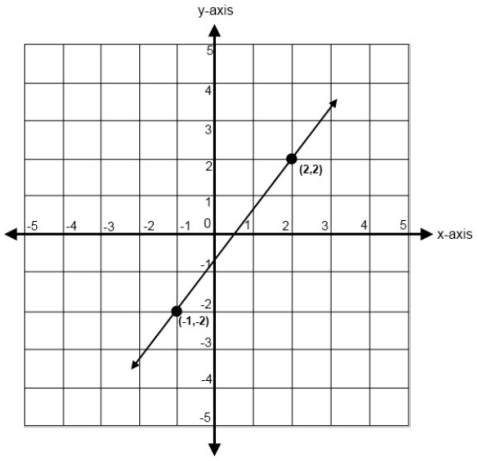
Table B

x	y
2	14
5	35
7	49
10	70

Justify your answer

7. Compare the following functions to determine which has the greater rate of change.

Function 1:



Function 2:

x	y
-1	-6
0	-3
2	3

Justify your answer

8. Neptune's average distance from the Sun is 4.503×10^9 km. Mercury's average distance from the Sun is 5.791×10^7 km. About how many times farther from the Sun is Neptune than Mercury? Write your answer in scientific notation.

_____

9. Each entry-level account executive in a large company makes an annual salary of $\$3.48 \times 10^4$. If there are 5.2×10^2 account executives in the company, how much do they make in all?

In scientific notation _____

In standard form _____