Unit 4- Study Guide Part 2

Name _____

1. Below is a table showing the temperature of soup heating in a pot over time.

   a. Complete the table below.

Time (minutes)	0	1	2	3	4
Temperature (in degrees Fahrenheit)	60	66	72	78	84

   b. Write a linear equation relating time T and temperature of the soup S.

$S = 6T + 60$

   c. Write a NOW - NEXT equation that shows how the temperature changes with each additional minute.

Next = Now + 6, SA 60

2. A local carnival charges an entrance fee of $14. In addition, they charge $0.25 for each ride. Which of the following equations could be used to determine the cost C of attending the carnival if you plan to ride r rides?

C = 14.25r (C = 14 + 0.25r) C = 14r + 0.25

3. A student finds the slope of the line between (4, 3) and (-2, -2). She writes $\frac{-2-4}{-2-3}$. What mistake did she make? Correctly solve the problem.

Error: She did $\frac{x_2-x_1}{y_2-y_1}$ instead of $\frac{y_2-y_1}{x_2-x_1}$

Solution worked out correctly: $\frac{-2-3}{-2-4} = \frac{-5}{-6} = \frac{5}{6}$

16

mmon Core Math I
nit 4- Study Guide Part 2

Name_____

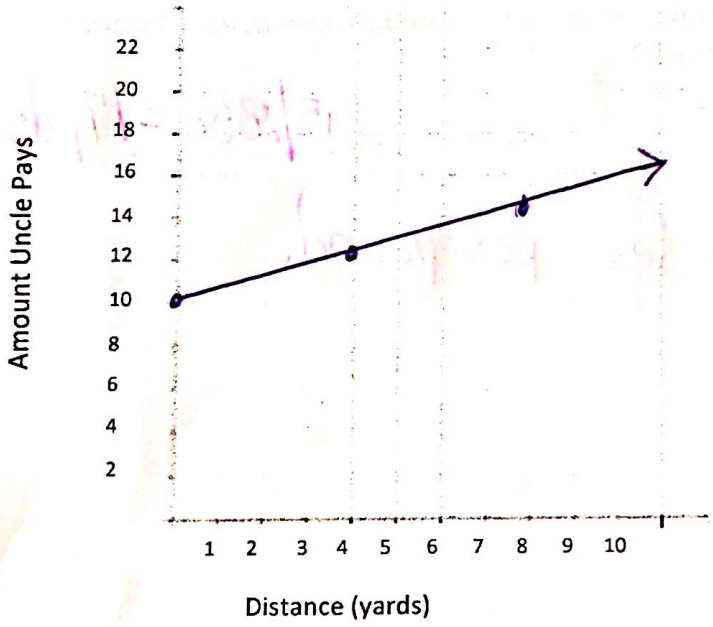
4. Jessica got her uncle to sponsor her for the swim-a-thon to raise money for her swim club. He said he would use the equation $A = 10 + 0.5s$, where A is the amount he will pay if Jessica swims s yards.

a. Identify the slope and y-intercept.

Slope: 0.5 Y-Intercept: 10

b. Explain the meaning of the slope and the y-intercept in this equation in terms of distance swam and the amount Jessica's uncle will pay. Jessica's uncle will pay her 50¢ per yard she swims and he is giving her $10 upfront.

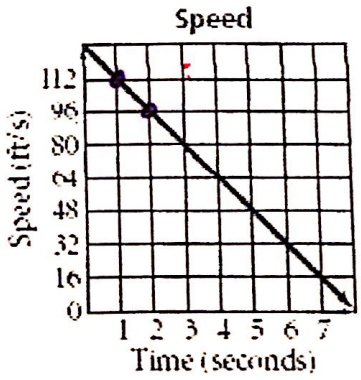
c. On the grid below, sketch a graph that indicates how much her uncle will pay as a function of the distance that she swims.



(0,10)
(4,12)
(8,14)

5. Find the rate of change. Explain what the rate of change means for this problem.

Rate of Change: -16 ft/sec $\frac{112-96}{1-2} = \frac{16}{-1}$



Explanation:

Speed is decreasing by 16 feet per second.

mmon Core Math I
it 4- Study Guide Part 2

Name_____

The local candy store sells 4lb of candy for $3.99, while the grocery store down the street sells a 5lb bag of dy for $4.29.

a. What is the cost of one pound of candy at each location?

Candy store: $3.99/4 = .9975$ Grocery store: $4.29/5 = .858$

b. Write the equation to describe the cost of candy at each store if c is the cost and p is the number of pounds of candy purchased.

Candy store: $C = .9975p$ Grocery store: $C = .858p$

c. How does the cost of one pound of candy relate to the equations you write in part b?

The cost of one pound is the slope in the equation.

d. If you spend $15 on candy, about how many pounds of candy can you purchase at each location? Which store offers the better buy and by how much?

Candy store: $15/.9975 = 15$ pds. Grocery store: $15/.858 = 17$ pds

Better buy? Grocery story is less per pound.