STUDENT MATERIALS

PART 1 – LIVING LINEAR

Answer each of the questions below. Be sure to show your calculations in the space provided.

1. In a cafeteria a student purchases one of the lunch options for \$3.35 each day of the week. An equation to model this situation is $y = 3.35x$.

   I. If ten lunches are purchased, what is the total cost? $3.35(10)$

   \$33.50

   II. At the end of the month the total cost was \$67. How many school lunches were purchased?

   20 lunches $\frac{67}{3.35} = 20$

   III. In the equation $y = 3.35x$, the y-intercept represents

   [✓ a.] The total cost, in dollars, of buying a school lunch.
   b. The number of days school lunch was purchased.
   c. The total cost, in dollars, when zero lunches are purchased.
   d. The cost, in dollars, for one day of purchasing lunch.

   IV. In the equation $y = 3.35x$, the slope represents

   [✓ a.] The cost of buying a school lunch.
   b. The number of lunches purchased.
   c. The cost of purchasing additional food options.
   d. The total cost of purchasing lunches.

2. Sam earns $50 per week by babysitting after school. If Sam babysits on the weekend an additional $12 per hour could be earned. Sam is saving money to purchase a new outfit for the formal dance. To calculate money earned in one week the following equation can be used: $y = 12x + 50$.

   I. The variable x represents:

   How many hours she babysat

   II. The variable y represents:

   How much she get's Payed a week for babySitting.

   III. What does the slope represent in the context of the situation?

   How much money She gets Per hour

   IV. What does the y-intercept represent in the context of the situation?

   How much money She get's in total.

3. In a mathematics quiz bowl tournament, students compete to finish a math test in record time. Create equations to model the total time, in minutes, *y*, it will take each student to complete *x* questions, given the rates below.

Student A averaged 30 seconds per question.

Student B averaged .45 minutes per question.

Student C averaged 2/3 minutes per question.

I. Show your work and equation for each student below.

Student A:

$y = .5x$

Student B:

$y = .45x$

Student C:

$y = \frac{2}{3}x$

II. If each student completes 40 questions, which student will win? C

$A = 20$
$B = 18$

III. The student who won the mathematics quiz bowl finished in 26 minutes.

IV. In the equation for Student A the slope represents:

How many Seconds it took Per question

V. In the equation for Student B, the y-intercept represents:

The total time of completing the whole math test.