Name_____Period_____Date_____

Business Math (Key)

Read the word problems carefully showing your work on the side. Circle the correct answer.

1. The Small Business Initiative is trying to increase the number of restaurants in a certain area of town. The organization is willing to pay 30% of your rent if you agree to be in business in the area for at least five years. If your rent is $1,500.00 per month, use the equation below to find the amount of money you will save (S) during the five years in rent (r).

S = .30 * (r) (12) (5)

a. $450.00

b. $2,250.00

c. $27,000.00

d. $2,700,000.00

r = $1,500.00

$1,500.00 * 12 = $18,000.00

$18,000.00 * 5 = $90,000.00

$90,000.00 * .30 = $27, 000.00

S = $27, 000.00

2. Alan is going to expand his restaurant business. He is opening a second restaurant and predicts that it will do 25% better than his original restaurant during the first year. Use the equation below to find the profit (P) per month of the new location if the old restaurant averages $40,000.00 (x) per month.

P = (1+.25) * (X)

a. $50,000.00

b. $10,000.00

c. $160,000.00

d. $30,000.00

P = (1 + .25) * $40,000.00

P = 1.25 * $40,000.00

P = $50,000.00

Name_____Period_____Date_____

Business Math (Key)

Read the word problems carefully showing your work on the side. Circle the correct answer.

3. Alan is going to expand his restaurant business. He is opening a second restaurant and predicts that it will do 25% better than his original restaurant during the first year. Use the equation below to find the profit (P) for the FIRST year of the new location if the old restaurant averages $40,000.00 (x) per month.

P = (1+.25) * (X) * (12)

a. $360,000.00

b. $60,000.00

c. $600,000.00

d. $1,920,000.00

P = (1 + .25) * $40,000.00 * 12

P = 1.25 * $40,000.00 *12

P = $50,000.00 * 12

P = $600,000.00

4. Hannah works at the gift shop in a local hotel. She makes popcorn to sell in the gift shop. The large popcorn cost $4 and the small popcorn cost $2. Hannah sold 80 popcorns in all and collected $236.

Use the equation below to find out how many large (x) and small (y) bags of popcorn she sold.

x + y = 80

4x + 2y = 236

a. x = 60 and y = 20

b. x = 42 and y = 34

c. x = 55 and y = 25

d. x = 38 and y = 42

Large (x) + small (y) = 80
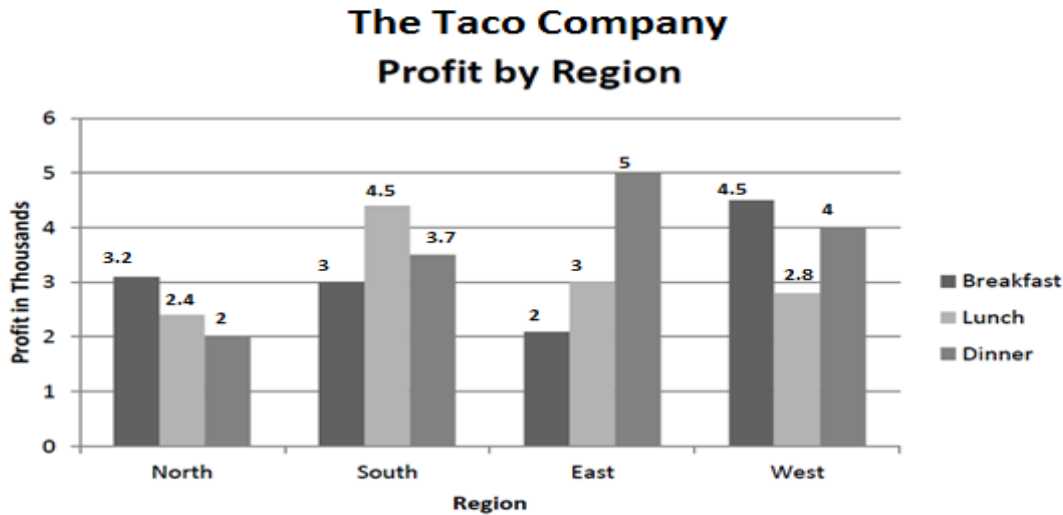
4 * x + 2 * y = $236.00

4 * 42 + 2 * 34 = $236.00

168 + 68 = $236.00

Business Math (Key)

Read the word problems carefully showing your work on the side. Circle the correct answer.

The Taco Company
Profit by Region

5. The most profitable place to start a business will have the largest average profit.

   Which region has the largest average profit?

$$AP = \frac{Breakfast + Lunch + Dinner}{3} * \$1000$$

a. North with an average profit of $2,533.00

b. South with an average profit of $2,533.00

c. East with an average profit of $3,767.00

d. West with an average profit of $3,767.00

AP = 4.5 + 2.8 + 4 ÷ 3 * $1,000.00
AP = 11.3 ÷ 3 *$1,000.00
AP = 3.7666 * $1,000.00
AP = $3,767.00 (round up)

6. The Taco Company offers prizes for regions with the most profits. Which three regions had the most profits for breakfast, lunch and dinner? (use the same graph above)

a. South, South, and East

b. West, South, and East

c. West, North and West

d. East, North, and North

North = 3.2 + 2.4 + 2 * $1,000.00 = $7,600.00
South = 3 + 4.5 + 3.7 * $1,000.00 = $11,200.00
East = 2 + 3 + 5 * $1,000.00 = $10,000.00
West = 4.5 + 2.8 + 4 * $1,000.00 = $11,300.00

Business Math (Key)

Read the word problems carefully showing your work on the side. Circle the correct answer.

7. The Culinary Arts Practicum class is hosting a German Luncheon and you are anticipating 150 guests. The Chef Instructor has provided you with the following recipe for Sauerbraten that yields 25 portions.

   Convert this recipe to serve the anticipated 150 guests. Multiply all ingredients by (r). What formula would you use to do this?

   Protein:
   - 10 pounds beef brisket (trimmed)

   Marinade:
   - 1 quart red wine vinegar
   - 1 quart distilled water
   - 2 pounds sweet Vidalia onions
   - 1 pound carrots (large dice)
   - 1 pound celery (finely chopped)
   - 6 garlic cloves (minced)
   - 2 ounces raw brown sugar
   - 7 fresh bay leaves
   - 6 whole cloves
   - 1 tablespoon Peppercorn Mélange (crushed)
   - 2 teaspoon kosher salt

   Pan Gravy:
   - 8 ounces red wine
   - 6 ounces Ginger Snap Cookies (processed fine)

   a. r = 150 * 25

   b. r = 25 ÷ 150

   c. r = 150 ÷ 25

   d. r = protein * marinade * pan gravy

   > Desired yield ÷ original yield = conversion factor
   >
   > r = 150 ÷ 25