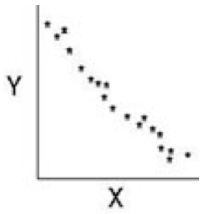
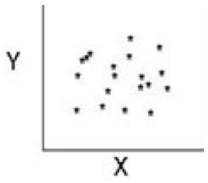
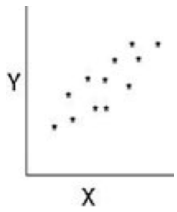
Unit 4 Review

Name: _____ Date: _____

Directions: Examine each scatterplot. Identify each as showing a positive correlation, a negative correlation, or no correlation.

1. 

2. 

3. 

Directions: Each set of bivariate data has a causal relationship. Determine the explanatory (independent) and response (dependent) variables for each set.

4. number of hours spend reading and page number on which you are reading.

    Explanatory (independent) variable:

    Response (dependent) variable:

5. calories burned and number of minutes exercising.

    Explanatory (independent) variable:

    Response (dependent) variable:

6. amount paid as income tax and amount of a paycheck

    Explanatory (independent) variable:

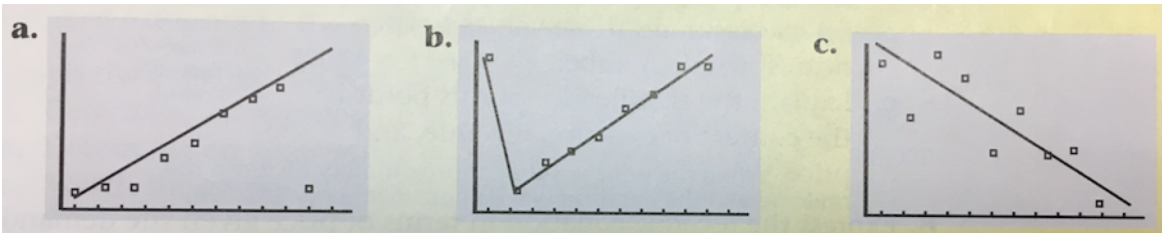
    Response (dependent) variable:

7. pounds of hamburger use to make a meatloaf and number of people that can be fed from the meatloaf

    Explanatory (independent) variable:

    Response (dependent) variable:

8. Which of the scatterplots below does NOT show a line of best fit?



9. Describe each of the following correlation coefficients using the terms strong, moderate, or weak and positive or negative. If a given coefficient is not possible, state "not possible".

a) $r = 0.17$

b) $r = -0.62$

c) $r = -0.88$

d) $r = 1.02$

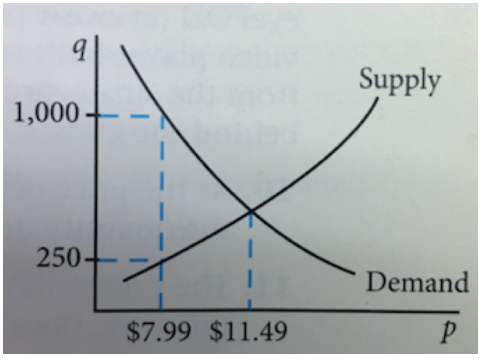
e) $r = 0.33$

f) $r = -3.78$

g) $r = -0.25$

h) $r = 0.91$

10. The graph below shows supply and demand curves for the newest game controller for a video game system.



a) What is the equilibrium price?

b) Describe what happens at this equilibrium price.

c) What will happen if the price is set at $7.99?

d) How many game controllers are supplied at a price of $7.99?

e) What will happen if the price is set at $12.99?

11. The demand function for a certain product is $q = -300p + 10{,}000$. The fixed expenses are \$500,000 and the variable expenses are \$2 per item produced.

    a) What is the expense function?

    b) If the price is set at \$20, what quantity will be demanded?

    c) If q = 1,000 widgets, find E, the cost (expense) of producing them.

12. At a particular company, the monthly expense equation is $E = 50p + 40$. Its products will be sold to retailers at a wholesale price of \$60 each. How many items must be sold to reach the breakeven point?

13. Let the expense function for a particular item be $E = -19.50p + 530$. Let the revenue function be $R = -4.5p^2 + 100p$. Determine the breakeven points.

14. Determine the expense E for a production if $E = 82q + 850$, p = \$32, and $q = 24p + 705$.