Name: __Key__   Date: _____
UNIT 4   LESSON 6

Do Now: Describe the "ski bird's" slope as *positive, negative, zero, or no slope.*

a. __negative__   b. __positive__   c. __no slope__   d. __zero__
                                          __undefined.__

✗ Do Not connect Dots! **AIM: INTRO TO SCATTER PLOTS**

SCATTER PLOT __A graph of plotted points that shows a relationship__
__between sets of data. Scatter plots are composed of dots.__

CORRELATION RELATIONSHIP __measures the "strength" and direction__
__of the relationship between two variables.__

In many real-life situations, scatter plots follow patterns that are approximately linear.

If y tends to increase as x increases, then the paired data are said to be a ___positive correlation___.

If y tends to decrease as x increases, the paired data are said to be a ___negative correlation___.

If the points show no linear pattern, the paired data are said to have ___no correlation___.

Directions: Identify the three types of correlation each scatterplot shows and write a conclusion for each.

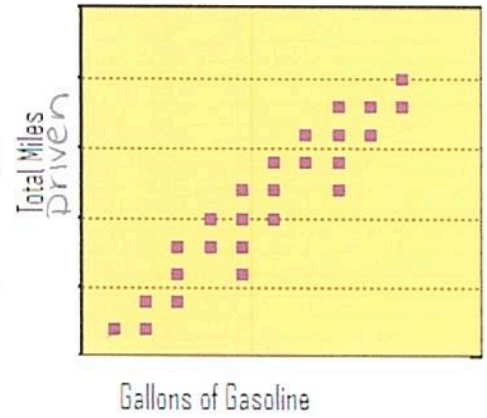| 1. Correlation: __strong positive__	2. Correlation: __strong negative__	3. Correlation: __no correlation__
Conclusion: __y tends to__ __increase as x increases__	Conclusion: __y tends to__ __decrease as x increases__	Conclusion: __the points__ __show no linear pattern__ __(cannot draw an__ __accurate line of best fit)__

4. Given the scatter plot below determine the following.

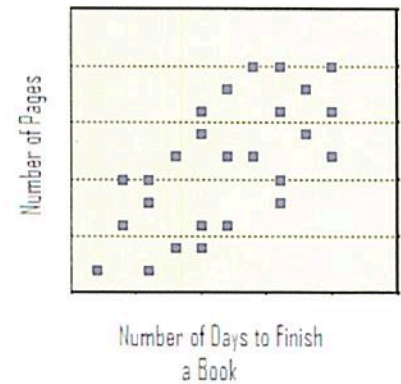a) Correlation: strong positive

b) Conclusion: The more gallons of gasoline used, the more miles driven.

Total Miles Driven

Gallons of Gasoline

5. Given the scatter plot below determine the following.

a) Correlation: weak positive

b) Conclusion: As the # of days to finish a book increases, there are more pages in the book.

Number of Pages

Number of Days to Finish a Book

6. Given the scatter plot below determine the following.

a) Correlation: strong negative

b) Conclusion: As speed increases, time decreases

Time in Hours

Speed in Miles Per Hour
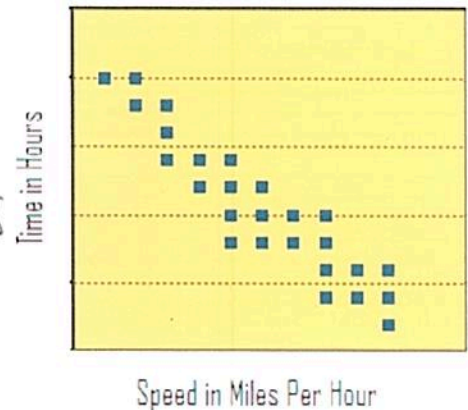
7. Which situation describes a negative correlation?

1) the amount of gas left in a car's tank and the amount of gas used from it

2) the number of gallons of gas purchased and the amount paid for the gas

3) the size of a car's gas tank and the number of gallons it holds

4) the number of miles driven and the amount of gas used

8. A positive correlation always exists on a scatter plot when

1) y remains unchanged as x increases
2) y changes randomly as x increases
3) y decreases as x increases
4) y increases as x increases

9. The scatter plot below represents the relationship between the number of peanuts a student eats and the student's bowling score. Which conclusion about the scatter plot is valid?

1) There is almost no relationship between eating peanuts and bowling score.
2) Students who eat more peanuts have higher bowling scores.
3) Students who eat more peanuts have lower bowling scores.
4) No bowlers eat peanuts.
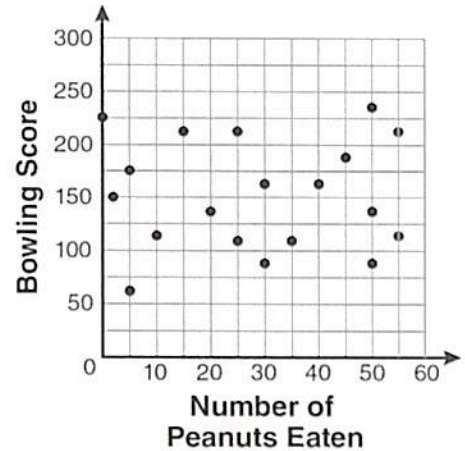
10. Which scatter plot shows the relationship between x and y if x represents a student score on a test and y represents the number of incorrect answers a student received on the same test?

1)

2)
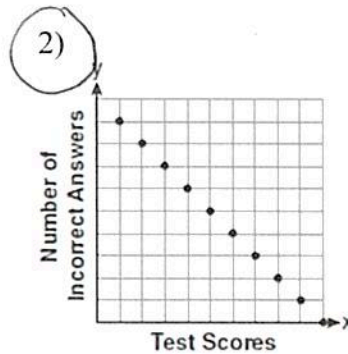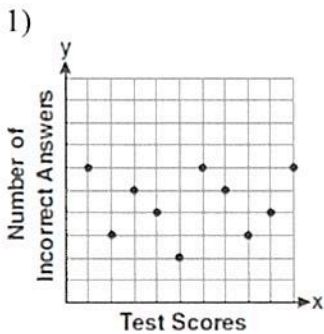
✳ less # incorrect means higher test score

3)

4)