Multiple Choice

- 1. Which of the following is an arithmetic sequence with a common difference of 2?
- **[A]** 1, -3, 5, -7, 9...

[B] 10, 8, 6, 4, 2...

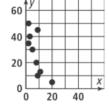
[C] 2, 4, 8, 16, 32...

- **[D]** 13, 15, 17, 19, 21...
- **2.** What type of correlation does the scatter plot below show?
- [A] No Correlation

[B] Weak Negative

[C] Strong Negative

[D] Strong Positive



- **3.** Select an appropriate r-value for the graph in #2.
- [A] r = -0.85

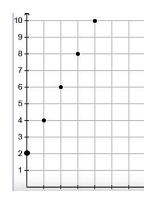
[B] r = 0.99

[C] r = 0.85

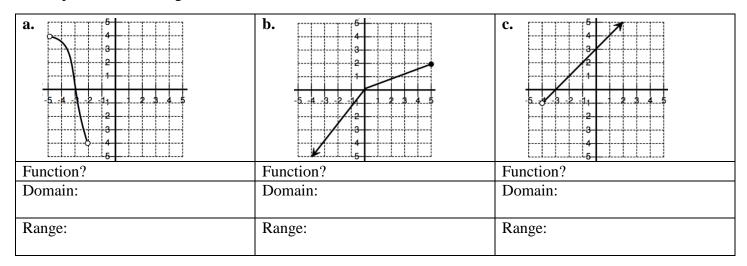
[D] r = -0.99

Free Response

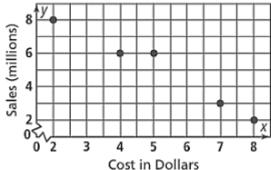
- **4.** You open a savings account with a \$400 deposit. Each month, you deposit \$25.
- **a.** Write a sequence that represents your balances over the first 4 months.
- **b.** Write an explicit, and recursive formula to represent the amount of money you deposit into your savings account.
- c. How much money will you have after 12 months?
- **d.** After how many months will you have \$950 in your account?
- **5.** Write the explicit formula equivalent to the recursive formula $a_1 = -3$ $a_n = a_{n-1} + 5$
- **6.** Use the graph of g(x) to answer the following questions.
- **a.** What is the common difference?
- **b.** What is a_0 ?
- **c.** Write the recursive formula.



7. Complete the following table.



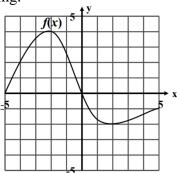
- 8. The graph shows the relationship between the cost of a candy bar (in dollars), and the total sales the company makes (in millions).
- a. Describe the type of correlation between the cost of a candy bar and the total sales.
- **b.** Draw a trend line, then write the equation of the trend line.



- **c.** Using your trend line, what would the expected sales be if the cost of one candy bar was set at \$6.50?
- **9.** Using g(x) = -2x + 4, h(x) = x 7, and the graph of f(x), evaluate each of the following.
- **a.** h(-7)

b. h(5) + f(2)

c. g(-2) - h(2)



- **d.** f(5) + f(-2)
- **e.** x, when f(x) = 4 **f.** x, when h(x) = 26