**Pretest Algebra 2**

**Short Cycle 2: Linear Relations and Functions**

Show all work on your answer sheet. DO NOT WRITE IN THE TEST BOOKLET**.** A calculator may not be used for this portion of the assessment. Time Limit: 45 minutes

**Selected Response**

**Directions:** For questions 1 – 10, select the correct answer and mark the appropriate bubble on

 the answer sheet. (1 point each)

1. Find the vertex of the equation .

 **A.** (7, −2) **B.** (7, 2) **C.** (−7, −2) **D.** (−7, 2)

2. Identify the function that represents the graph shown.

#  A. *f(x)* =   B. *f(x)* =

#  C. *f(x)* =   D. *f(x)* =

3. Find the range of the relation and determine whether the relation is a

 function.

 **A.  B. **

 **C. ** **D.** ****

4. Given that 

 **A.** 0  **B.** 2  **C.** 3 **D.** 8

5. Write in slope-intercept form the equation of the line that passes through the point and has a slope of -2.

#  A.  B.

#  C.  D.

6. Find the slope of (6, -8) and (15, 12).

 **A.** $\frac{4}{9}$ **B.** $\frac{9}{4}$

 **C.**  $\frac{20}{9}$ **D.** $\frac{9}{20}$

7. Identify the graph that represents the function.

![[image]]()![[image]]()

A. B.

![[image]]()![[image]]()C. D.

8. Identify the graph that represents the inequality.

![[image]]()

![[image]]()

 **A**. **B.**

![[image]]()

![[image]]()

 **C. D.**

 9. If 3x = 0, what does 9 + 5x + x² equal?

 **A.** 0 **B.** 3 **C.** 9 **D.** 14 

10. Identify the graph that represents the function .

![[image]]()![[image]]()

**A.** **B.**

![[image]]()

**![[image]]()C.** **D.**

**Student Produced Response**

11. Graph:  12. 

 Fill in the table of values:

|  |  |
| --- | --- |
| x | y |
| -3 |  |
| -2 |  |
| -1 |  |
| 0 |  |
| 1 |  |
| 2 |  |

**Directions:** For question 13, show all your work in the space provided on your answer sheet.

 (2 points)

13. Find the equation of a line that passes through (−5, 3) and (6, 25)

**Constructed Response:** A calculator may be used for this portion of the assessment.

**Directions:** For question 14, show all work in the space provided on your answer sheet.

 (3 points)

14. The table below shows the life expectancy for people born in various years. (3 points)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | 1950 | 1960 | 1970 | 1980 | 1990 | 1997 |
| **Expectancy** | 65.2 | 69.1 | 70.8 | 73.7 | 75.4 | 76.5 |

* If *x* represents the **number of years since 1950,** find a prediction equation that will best fit the data. Use mathematics to explain how you determined your answer. Use words, symbols, or both in your explanation.

* Use your prediction equation to predict the life expectancy of a person born in 2010.