**Academic Algebra 2**

**Unit 6: Quadratic Functions and Inequalities**

**Pretest**

**Directions:** For problems 1 – 7, select the correct answer and mark the appropriate bubble on

 your answer sheet. (1 point each)

1. If f(x) = 5x2 + 9x – 10, what is the value of f(1)?

#  A. 4 B. 5 C. 24 D. -10

# Solve.

#  A.  B.  C.  D.

1. Find the solution to (x – 2)(x + 1) = 0.

#  A.  B.  C.  D.

1. Solve the following using square roots: (x + 9)2  + 10 = 46.

 **A.** 15, -25 **B.** 15. -15 **C.** -3, -15 **D.** 3, 15

1. Factor and solve 3x2 + 7x – 6 = 0.

#  A.  B.  C.  D.

1. Identify the a, b, and c for the quadratic equation: x² - 25 = 0.

 **A.** a = 0, b = 0, c = -25 **B.** a = 1, b = 0, c = -25

 **C.** a = 1, b = -25, c = 0 **D.** a = 0, b = 0, c = -25

7. Find the answer of 5 ± $\sqrt{9-4\left(1\right)(-10)}$

 A. 5±$\sqrt{31}$ B. 12, -2

 C. 12, -12 C. 2, -2

**Student Produced Response**

**Directions:** For questions 8 - 9, write your answer in the space provided on your answer sheet.

 (2 points each)

8. Solve the equation using square roots: 7(x – 4)2 + 2 = 65

9. Solve using factoring. Use mathematics to explain your answer. Use words, symbols or both in your explanation.

10. Solve the equation: 14(x + 5) – 5(6x + 3) = 18 + 90 + 11 – 20x

11. Given. Solve the equation using the quadratic formula