Unit 2C: Quadratic Functions – Working With Equations

PRE-TEST

Simplify each of the given Square Roots:

1. $\sqrt{68}$

2. $\sqrt{448}$

3. $\sqrt{-375}$

4. $\sqrt{-52}$

Perform the indicated operation on the Complex Numbers:

5. $(-2+3i)+(-4i-1)$

6. $(8-6i)-(4-3i)$

7. $(-5+3i)(2-3i)$

8. $\frac{4+2i}{2+i}$

Solve each of the following using Square Roots. Give exact solutions:

9. $4x^2+13=253$

10. $9(x-2)^2=121$

Solve each of the following by Factoring. Give exact solutions:

11. $15x^2=7x+2$

12. $6x^2-17x=-12$

Solve each of the following by Completing the Square. Give exact solutions:

13. $x^2 - 6x + 3 = 0$

14. $4x^2 - 8 = -13x$

Solve each of the following by using the Quadratic Formula. Give exact solutions:

15. $-x^2 - 3x + 1 = 0$

16. $5x^2 - 3 = 2x$

17. Given that the standard form of a quadratic equation is $ax^2 + bx + c = 0$, use the method of completing the square to prove the quadratic formula works.