**Algebra 2,** Unit 9: Quadratics **#37**

**Day 37: Review Unit 9 - Quadratics**

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| **Part 1 - Solving Quadratics** |

**Close to Proficient (2.5)**

**Solve with the Zero Product Property.**

1. (x - 4)(x + 7) = 0 2. 3x(x - 9) = 0

**Solve by first factoring, then using the Zero Product Property.**

3. x2 + 6x + 8 = 0 4. x2 - 10x + 16 = 0

**Solve by first factoring out a GCF, then using the Zero Product Property.**

5. 3x2 - 12x = 0 6. 6x2 + 8x = 0

**Proficient (3) and Highly Proficient (4)**

**Solve by factoring**.

7. 3p2 - 2p - 5 = y 8. 4x2 - 15x - 25 = 0

9. **Solve with the quadratic formula**: 4x2 + 8x + 3 = 0

**Solve using any method.**

10. 4x2 = 64 11. x2 - 7x = 18

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| **STOP! Rate yourself on your solving skills.** Check your answers and then circle one:DP (2) CP (2.5) P (3) HP (4) |

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| **Part 2 - Changing Forms/Writing Equations** |

**Close to Proficient (2.5)**

**Change from factored to standard form by multiplying.**

1. y = (x + 3)(x - 7) 2. y = 3x(x - 5) 3. y = (x + 3)2

**Proficient (3) and Highly Proficient (4)**

**Change to standard form. Change to vertex form by completing the square.**

4. y = -4(x - 5)2 + 6 5. y = x2 - 12x + 4

**Write an equation to represent the situation.**

6. For your project you kicked a soccer ball 2 seconds after the clock started, and it landed 5 seconds after the clock started. Your friend is recording you, and when played back you notice that at 3 seconds, the ball is at a height of 12 feet in the air. Write an exact equation in **factored form** to represent this, if **x** represents time and **y** represents the height of the ball in the air. Consider drawing a sketch to help you.

7. A large kangaroo has an incredible jump. At a horizontal distance of 6 feet it reaches its **maximum** height of 12 feet in the air. When it is at a horizontal distance of 3 feet, it is 9 feet in the air. Let x represent the horizontal distance and y represent the vertical height. Write an exact equation in **vertex** **form** to represent this problem.

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| **STOP! Rate yourself on your changing form/writing equations skills.** Check your answers and then circle one:DP (2) CP (2.5) P (3) HP (4) |

**Extra Practice**

Identify what method to use, and then solve.

1. 5x2 + 15x = 0 2. 8x2 + 12x = 0

3. x2 - 5x + 6 = 0 4. x2 + 6x + 36 = 0

5. 2x2- 9x - 5 = 0 6. 3x2 = - 17