<u>Writing Quadratic Equations Notes</u>

Write the equation for the quadratic function passing through the given points.

1. Roots are -2 and 4 (assume a = 1)

2. Roots are 0 and -8 with a vertex of (-4,-9)

3. Double root at 2 passing through the point (-1, -7)

4. Roots are 1 and -5 with a y-intercept of -10. **Express your answer in standard form.**

5. Roots are $\pm 3i$ with a vertex of (0, 9). **Express your answer in standard form.**

6. One root is $1 - 2i$ passing through (3, 8). **Express your answer in standard form.**

7. One root is $-1 + \sqrt{15}i$ and the y-intercept is 16. **Express your answer in standard form.**

8. The Golden Gate Bridge in San Francisco is recognized as one of the "Modern Wonders of the World" by the American Society of Civil Engineers. The center span of the bridge is 4200 meters long. The suspension cables hang in parabolic arcs from towers 750 feet above the ocean's surface. These cables come as close as 220 feet to the water at the center of the span. Write an equation for the quadratic function that expresses the distance of the cables from the water.