1. What is the BEST way to solve the following quadratic equation?
$$x^2 - 10 = 0$$

   Solve by factoring   Complete the square

   Solve as a composite function   Use the quadratic formula

2. What is the BEST way to solve the following quadratic equation?
$$x^2 + 5x + 14 = 0$$

   Solve by factoring   Complete the square

   Solve as a composite function   Use the quadratic formula

3. How many solutions are there to the following quadratic equation?
$$x^2 + 5x + 14 = 0$$

4. How many solutions are there to the following quadratic equation?
$$x^2 - 8x + 16 = 0$$

5. What are the domain values of the solutions to the following system of equations?
$$y = x^2 - 6 \quad ; \quad y = 2x + 2$$

6. What is the range of the following exponential function?
$$y = 4^x - 5$$

7. What is the range of the following exponential function?
$$y = 8 - 2^x$$

8. Yvonne buys a new quad for $8,000. Write the equation that shows a 15% depreciation per year for the quad over t years.

9. Solve the following quadratic equation.
$$x^2 - 81 = 0$$

10. Solve the following quadratic equation.
$$4x^2 + 1 = 0$$

Answer Key

1. solve as a composite function

2. use the quadratic formula

3. two imaginary answers

4. one rational answer

5. $x = -2 \ or \ 4$

6. $(-5, \infty)$

7. $(-\infty, 8)$

8. $A(t) = 8000(0.85)^t$

9. $x = \pm 9$

10. $\emptyset$ (no real solution)