Quadratic and Radical Functions – Exam Review #8

*Match each graph to the number of solutions it has. Then, list the solutions in the blanks provided.*

**\_\_\_\_\_ 1. \_\_\_\_\_ 2. \_\_\_\_\_ 3.**

 A. No Solutions B. 1 Solution C. 2 Solutions

 x = \_\_\_\_\_\_\_\_ x = \_\_\_\_\_\_\_ , \_\_\_\_\_\_\_\_

*Name the transformations which are indicated by the given equations.*

**4.** y = x2 + 3 **5.** y = 4x2 **6.** y = (x – 5)2

**7.** y = $\frac{1}{6}$ x2 **8.** y = (x + 7)2 **9.** y = -x2 – 8



*Use the quadratic formula to solve the given equations.*

 **10.** $x^{2}$ + 2x – 3 = 0 **11.** $x^{2}$ – *x* – 20 = 0

 **12.** $x^{2}$ – 5*x* – 36 = 0 **13.** $x^{2}$ + 11*x* + 30 = 0

*Solve each equation using the zero product property.*

**14.** *x*(*x* – 8) = 0 **15.** *b*(*b* + 12) = 0

**16.** (*m* – 3)(*m* + 5) = 0 **17.** (*a* – 9)(2*a* + 1) = 0

*Simplify the radical expressions. (Time for factor trees!)*

**18.** $\sqrt{300}$ **19.** $\sqrt{126}$ **20.** $\sqrt{x^{3}y^{5}}$

**21.** $\sqrt{8b^{2}}$ **22.** $\sqrt{36k^{2}m^{4}}$

*Simplify each expression.*

 **23.** $12\sqrt{r}$ – $9\sqrt{r}$ **24.** $\sqrt{28}$ + $\sqrt{63}$

**25.** $4\sqrt{3}$ + $2\sqrt{12}$ **26.** $\sqrt{6} \left(4\sqrt{3}-\sqrt{10}\right)$