**Algebra 2 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4.1, 4.2, 4.7, 4.8 Review**

**Graph the following quadratic functions and identify the following information.**

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| **1.** **a. vertex: ( , )** **b. y-intercept: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ c.. axis of symmetry: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****d. domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ e. range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****f. max or min value: \_\_\_\_\_\_\_\_\_\_\_\_\_ g. solutions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **2.** $y<x^{2}-2x+3$**a. vertex: ( , )** |  **3.** $y\geq x^{2}+4x-3$**a. vertex: ( , )** |

**Identify the vertex of each quadratic equation. Then determine the direction of opening and the transformations.**

|  |  |
| --- | --- |
| **4.** $f\left(x\right)=(x-5)^{2}+4$**Vertex: ( , ) Open:** *up or down***Transformations:**  | **5.** $f\left(x\right)=(x+6)^{2}-3$**Vertex: ( , ) Open:** *up or down***Transformations:**  |
| **6.** $f\left(x\right)=-x^{2}+2$**Vertex: ( , ) Open:** *up or down***Transformations:**  | **7.** $f\left(x\right)=(x-2)^{2}$**Vertex: ( , ) Open:** *up or down***Transformations:**  |
| **8.** $f\left(x\right)=2(x+2)^{2}-3$**Vertex: ( , ) Open:** *up or down***Transformations:**  | **9.** $f\left(x\right)=-\frac{1}{2}(x)^{2}+4$**Vertex: ( , ) Open:** *up or down***Transformations:**  |