**Domain and Range – Quadratic Functions**

**Graph and determine the domain and range.**

 **1.** *y* = –$x^{2}$ + 2 **2.** *y* = $x^{2}$ – 6*x* + 3 **3.** *y* = –2$x^{2}$ – 8*x* – 5

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**Find the domain and range of each.**

 **4.** *y* = $x^{2}$– 9 **5.** *y* = –2$x^{2}$ + 8*x* – 5 **6.** *y* = 4$x^{2}$ – 4*x* + 1

**Consider each equation. Determine whether the function has a *maximum* or a *minimum* value. State the maximum or minimum value. What are the domain and range of the function?**

 **7.** *y* = 5$x^{2}$ – 2*x* + 2 **8.** *y* = –$x^{2}$ + 5*x* – 10 **9.** *y* = $\frac{3}{2}x^{2}$ + 4*x* – 9

**Graph each function.**

**10.** *f*(*x*) = –$x^{2}$ + 1 **11.** *f*(*x*) = –2$x^{2}$ + 8*x* – 3 **12.** *f*(*x*) = 2$x^{2}$ + 8*x* + 1



**13. BASEBALL** The equation *h* = –0.005$x^{2}$ + *x* + 3 describes the path of a baseball hit into the outfield, where *h* is the height and *x* is the horizontal distance the ball travels.

**a.** What is the maximum height reached by the baseball?

**c.** An outfielder catches the ball three feet above the ground. How far has the ball traveled horizontally when the outfielder catches it?