

# LINEAR & QUADRATIC SYSTEMS

*In how many ways can a quadratic & a line intersect?*

**a line and a circle or  
a line and an ellipse ...**

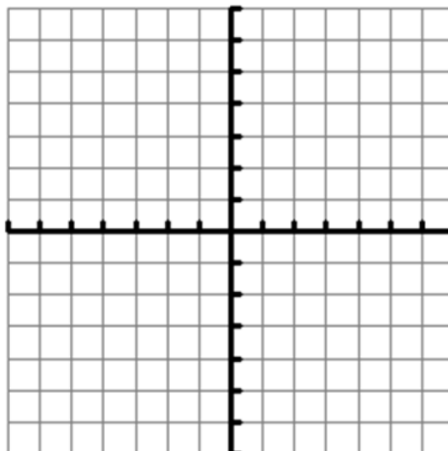
**a line and a parabola ...**

**a line and a hyperbola ...**



SOLVE BY GRAPHING:

$$\begin{cases} (x-3)^2 + (y-2)^2 = 9 \\ x + y = 2 \end{cases}$$



SOLVE ALGEBRAICALLY:

$$\begin{cases} x^2 + y^2 + 4x = 0 \\ y - x = 4 \end{cases}$$



SOLVE ALGEBRAICALLY:

$$\begin{cases} 3x + y^2 + 2 = 0 \\ 3x = y - 2 \end{cases}$$

