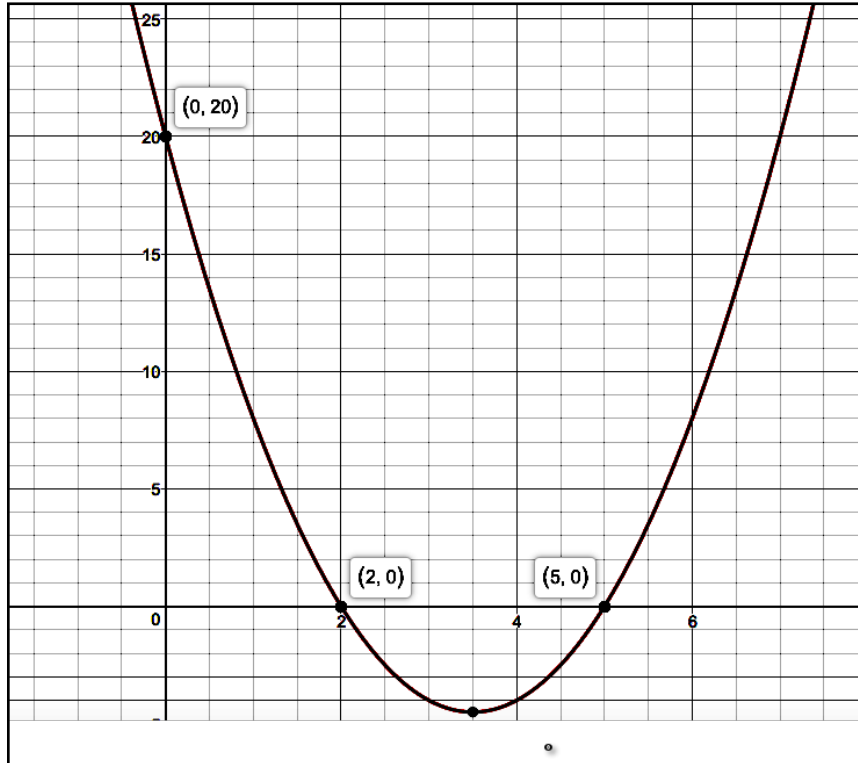
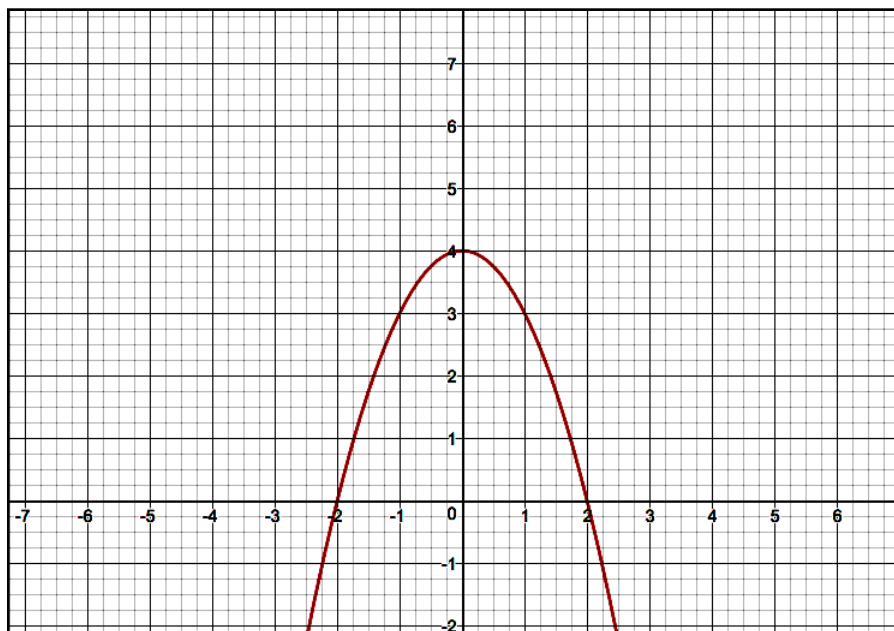


1. a) Find the equation of the parabola below. State the equation in INTERCEPT FORM. SHOW ALL WORK AND STEPS



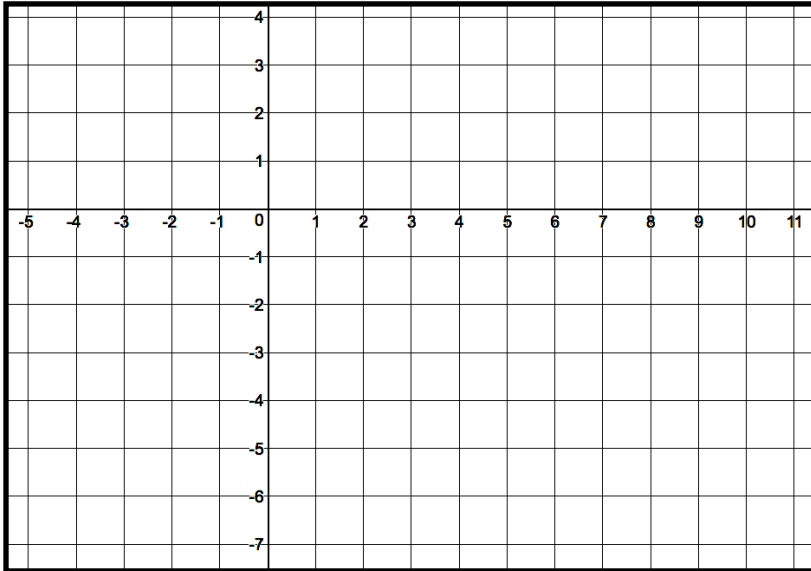
- b) Use the EQUATION in part “a” to find the “y” value of the parabola when x is 25.

2. Write a second linear equation in the following system of equations that would result in NO SOLUTION. Your solution cannot just be a horizontal line. Graph your equation to support your reasoning.



$$\begin{cases} y = -x^2 + 4 \\ y = \underline{\hspace{2cm}} \end{cases}$$

3. Solve the following System both GRAPHICALLY AND ALGEBRAICALLY



$$\begin{cases} y = x^2 - 6x + 2 \\ y = x - 4 \end{cases}$$

4. A Hamster is jumping on a trampoline (I'm getting desperate for material here.) One jump can be modeled by $f(x) = -x^2 + 5x$ where "x" is time in seconds and $f(x)$ is vertical distance in feet. That said, after how many seconds is the hamster 4 feet in the air? (Hint: $y = 4$) You may solve the problem ALGEBRAICALLY OR GRAPHICALLY OR BOTH FOR EXTRA CREDIT.

