Name_____ Period_____

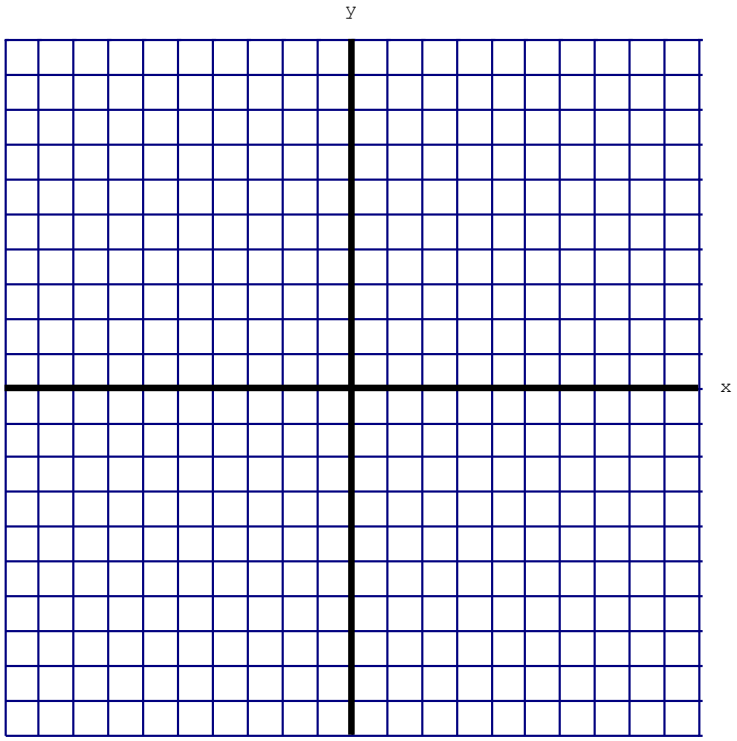
Solve each system of equations by substitution

1. $\begin{cases} y = x^2 - 6x - 20 \\ y + x = -6 \end{cases}$

2. $\begin{cases} y = x^2 + 8x + 12 \\ y = -x^2 + 2x - 1 \end{cases}$

Solve the system of equations by graphing

3. $\begin{cases} y = x^2 + 8x + 11 \\ y = x + 1 \end{cases}$



4. Students in an Algebra class at PVHS are simulating the start-up of a company. The income, y , can be described by the equation $y = \frac{1}{8}x^2$ where x represents the time in months. The expenses have been growing at a constant rate and can be defined by the equation $y = x$. When will income equal expenses? How much income did they generate?