Solve each of the following systems, algebraically. Support your solution with a hand sketch. Check your sketch with a graphing utility.

1. $\begin{aligned} y & =-x^{2} \\ y & =-2 x\end{aligned}$
$y=-2 x$
2. $x+y=10$
$x y=21$
3. $\begin{aligned} & y=x^{2} \\ & x=y^{2}\end{aligned}$
4. $\begin{aligned} & x^{2}+y^{2}=25 \\ & 2 x-3 y=-6\end{aligned}$
