

## Quadratic Quadratic Systems

### Procedure For Quadratic Quadratic Systems

1. Make one of the coefficients the same but opposite in sign by multiplying
2. Add the equations together
3. Solve the resulting equation
4. Substitute that value into the easiest equation to find other variable
5. Write your answer(s) as ordered pairs

Solve the following systems of equations.

1. 
$$\begin{aligned}x^2 + 2y^2 &= 17 \\ 2x^2 - 3y^2 &= 6\end{aligned}$$

2. 
$$\begin{aligned}4x^2 + y^2 &= 25 \\ x^2 - y^2 &= -5\end{aligned}$$

3. 
$$\begin{aligned}4x^2 - y^2 &= 0 \\ x^2 + 2y^2 &= 81\end{aligned}$$

4. 
$$\begin{aligned}x^2 + 4y^2 - 4 &= 0 \\ -2y^2 + x + 2 &= 0\end{aligned}$$

5. 
$$\begin{aligned}x^2 + y^2 &= 8 \\ xy &= 4\end{aligned}$$