

In-Class Problems 18 for Wednesday, April 4

These problems are from [Pre-Class Problems 18](#).

1. Solve the following systems of equations.

a.
$$\begin{aligned}x^2 + y^2 &= 18 \\2x - y &= 3\end{aligned}$$

b.
$$\begin{aligned}y &= 3x^2 \\y &= 10x - 8\end{aligned}$$

c.
$$\begin{aligned}x^2 + y^2 &= 12 \\(x - 3)^2 + y^2 &= 9\end{aligned}$$

d.
$$\begin{aligned}x &= y^2 - 8 \\3x &= -y^2\end{aligned}$$

2. Solve the following systems of equations using Gaussian elimination.

a.
$$\begin{aligned}4x - 3y + 5z &= -10 \\x + 6y - 2z &= 2 \\-2x - 9y + 3z &= -2\end{aligned}$$

b.
$$\begin{aligned}3x - 5y &= 14 \\2x + 3z &= 18 \\-y + 2z &= 9\end{aligned}$$