

1. Consider the system of linear equations

$$2x + 3y = 7$$

$$4x - 2y = -10$$

- (a) Find the solution(s) to the system.
- (b) Graph the two lines.
- (c) How is the solution in (a) related to the graph in (b)?

2. Repeat #1 for the system

$$3x + 6y = 2$$

$$-x - 2y = 1$$

3. Repeat #1 for the system

$$2x + 2y = 4$$

$$3x + 3y = 6$$

Find the solution(s) to the following systems

$$\begin{aligned}4. \quad & x - 3z = -5 \\ & 2x + y = 4 \\ & x + 2y + 12z = 9\end{aligned}$$

$$\begin{aligned}5. \quad & x - y + 3z = 2 \\ & y + 2z = -1 \\ & x + 5z = 2\end{aligned}$$

$$\begin{aligned}6. \quad & x_1 + x_2 + x_3 = 2 \\ & x_1 + 2x_2 + x_3 = 3 \\ & 2x_1 + 3x_2 + 2x_3 = 5\end{aligned}$$