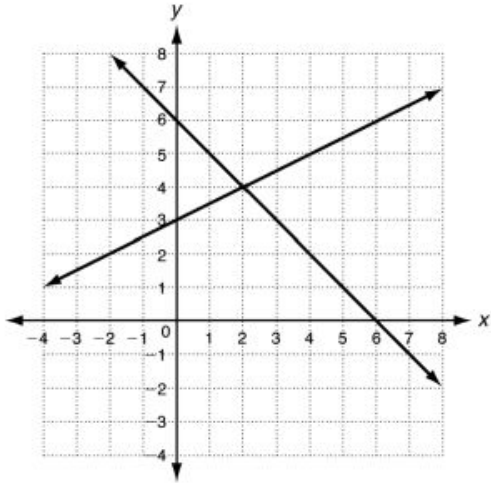1. What is the solution to the system graphed below?

2. Solve the system using **substitution**:

$$\begin{cases} y = 4x - 1 \\ y = 3x + 6 \end{cases}$$

3. Solve the system by **substitution**:

$$\begin{cases} 4x = 2y + 6 \\ y = 2x - 3 \end{cases}$$

4. Solve the system by **elimination**.

$$\begin{cases} x + y = -1 \\ x - y = -7 \end{cases}$$

5. Solve the system by **elimination**.

$$\begin{cases} 2x + 5y = 4 \\ 3x + 5y = 1 \end{cases}$$

6. What is the **first step** in solving the following system of equations using elimination?

$$\begin{cases} 7x - 10y = 12 \\ -x + 8y = 11 \end{cases}$$

7. Solve the system using **elimination**.

$$\begin{cases} -3x + 2y = 4 \\ 4x - 13y = 5 \end{cases}$$

8. Two gyms offer a two-month long, bootcamp style workout membership. Gym A charges $4 per session plus a one-time $50 fee. Gym B charges $6 per session plus a one-time $30 fee. After how many sessions is the cost of the membership the same at both gyms?

a. **Write** a system of equations:

Cost of Gym A equation:

Cost of Gym B equation:

b. **Solve** your system:

9. Mr. Frankel bought 7 tickets to a puppet show at the children's theater. He spent a total of $33. If children's tickets cost $3 each and adult tickets cost $9 each, how many adult tickets, a, and children's tickets, c, did he buy? Write and solve a system of equations to determine the answer.

a.   **Write** your system:

Number of tickets purchased:

Total cost of tickets purchased:

b. Now, **solve** your system: