

Unit 1A Practice Test

1. Solve the system $\begin{cases} -10x + y = 40 \\ -5x + 3y = -5 \end{cases}$ using either substitution or elimination.

2. Solve the system $\begin{cases} 4x + 5y = -2 \\ 5x = 5 - 10y \end{cases}$ using either substitution or elimination.

3. Solve the system $\begin{cases} 7x + 3y = -9 \\ 3y = x + 15 \end{cases}$ using either substitution or elimination.

4. Solve the system of equations by substitution.

$$\begin{cases} 4x - y = -7 \\ -3x + 2y = 4 \end{cases}$$

5. Solve the system of equations by substitution.

$$\begin{cases} 4x + 3y = -1 \\ 9x + y = -8 \end{cases}$$

6. Solve the system $\begin{array}{l} -10x + y = 40 \\ -5x + 3y = -5 \end{array}$ using elimination.

7. Solve the system $\begin{array}{l} 4x + 5y = -2 \\ 5x = 5 - 10y \end{array}$ using elimination.

8. Solve the system of equations by any algebraic method.

$$\begin{array}{l} -2x + 3y = 8 \\ 3x + 5y = -12 \end{array}$$

9. Solve the system of equations by linear combinations.

$$\begin{array}{l} 6x + 5y = 11 \\ 4x - 2y = 34 \end{array}$$

10. Solve the system of equations using any method.

$$3x + 4y = 0$$

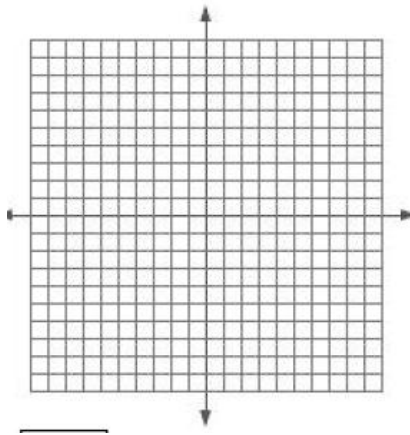
$$9x + 4y = 0$$

11. Solve the system of equations using any method.

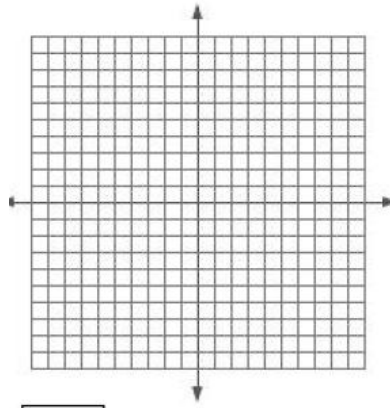
$$5x + 7y = 12$$

$$3x - 2y = 8$$

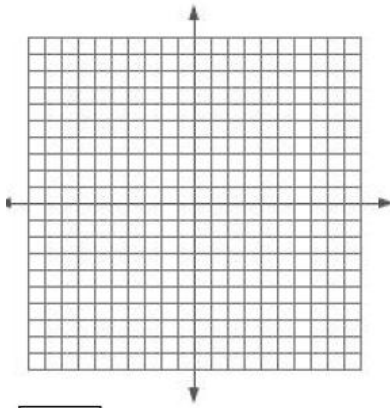
12. Graph the equation $-6x - 2y = -4$



13. Graph $y = -2x$ and $y = x + 3$ and tell how many solutions it has. If there is exactly one solution, estimate the solution.



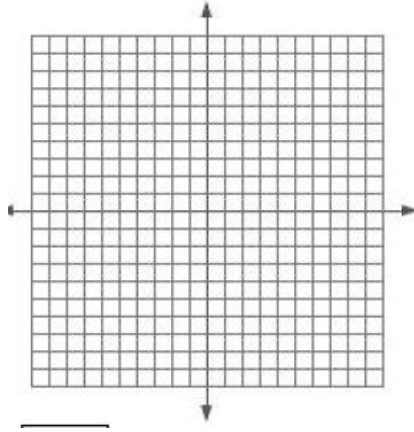
14. Graph $y = x + 2$ and $y = -x + 4$ and tell how many solutions it has. If there is exactly one solution, estimate the solution.



15. Solve the system of equations by graphing.

$$y = 5x - 3$$

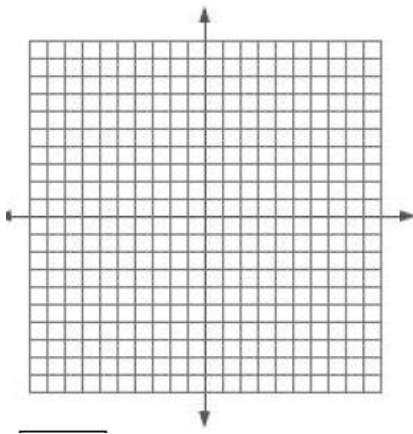
$$y = 3x - 1$$



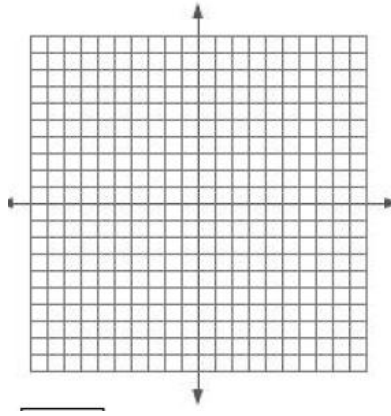
16. Solve the system of equations by graphing.

$$2x + y = 7$$

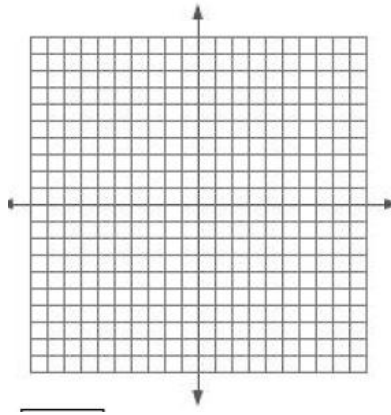
$$5x - 2y = 4$$



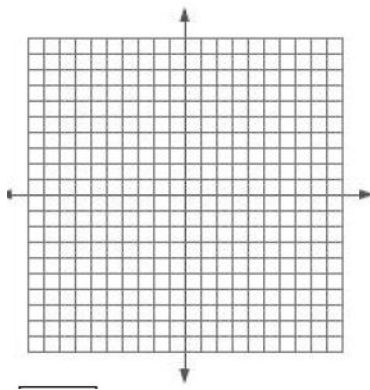
17. Graph the inequality $y \geq |x + 2| - 1$.



18. Graph the inequality $2x - y \geq 6$.



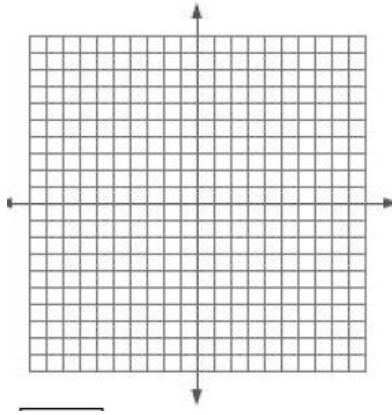
19. Graph the system of inequalities $y < |x| + 4$ and $y \geq 2$.



$$x + 2y \leq 5$$

20. Graph the system of inequalities $2x - 4y \leq -10$.

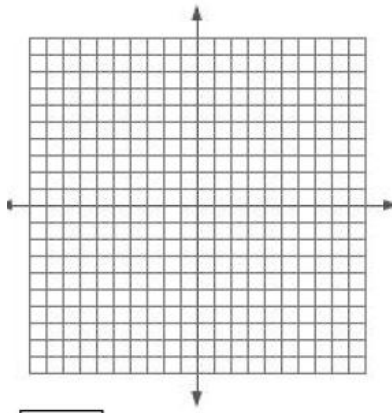
$$3x + 6y > -12$$



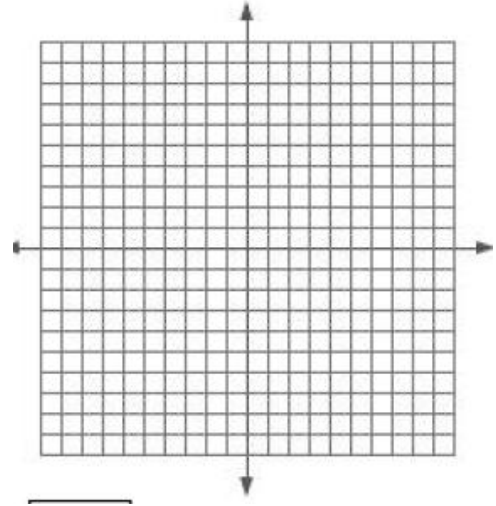
$$x + 2y \leq 10$$

21. Graph the system of inequalities $2x + y \leq 8$.

$$2x - 5y < 20$$



22. Find the minimum and maximum values of the objective function $C = 3x + 5y$. Subject to the constraints $x \geq 0$, $y \geq 0$, $-3x + 6y \leq 18$, $x + y \leq 6$.



23. A student advisory board at your school must consist of 7 to 10 representatives from junior and senior classes. The board must include at least 3 juniors and 3 seniors. Write and graph a system of inequalities to describe the situation. Then give two solutions for the numbers of juniors and seniors on the board.
24. You are decorating jewelry boxes to sell at a fair. It takes you 2 hours to decorate a small jewelry box and 3 hours to decorate a large jewelry box. You make a profit of \$12 for a small jewelry box and \$18 for a large jewelry box. If you have no more than 45 hours available and want at least 15 jewelry boxes to sell, how many of each size should you decorate to maximize your profit?

