

Topics to know for Chapter 6 Test

- ✍ Solving a system to find the POINT OF INTERSECTION (POI) graphically, by substitution, and by elimination.
- ✍ Graphing inequalities ($y > 3x - 1$) and graphing a system of inequalities $\begin{cases} y < -2x - 1 \\ 3x - 2y > 6 \end{cases}$.

Solving a system of equations:

1. Explain how to solve the system of equations: $\begin{cases} y = 4x - 3 \\ x + y = 2 \end{cases}$ by **graphing** to someone new to the class.
2. Explain how to solve the system of equations: $\begin{cases} y = 4x - 3 \\ x + y = 2 \end{cases}$ by the **substitution** method to someone new to the class.
3. Explain how to solve the system of equations: $\begin{cases} y = -x + 2 \\ y = 4x - 3 \end{cases}$ by the **substitution** method to someone new to the class.
4. Explain how to solve the system of equations: $\begin{cases} x + y = 2 \\ 4x - y = 3 \end{cases}$ by the **elimination** method to someone new to the class.
5. Explain how to solve the system of equations: $\begin{cases} 3x + 4y = 5 \\ 2x + 6y = 11 \end{cases}$ by the **elimination** method to someone new to the class.

Graphing Inequalities:

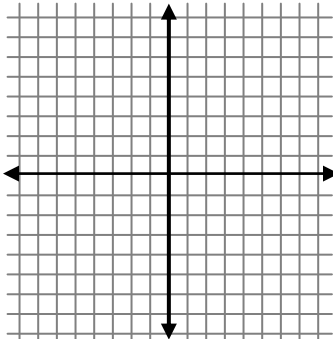
6. Explain how to graph the equation: $y > -\frac{2}{3}x + 1$ to someone new to the class.
7. Explain how to find the solution to the system of equations: $\begin{cases} 3x + 5y < 15 \\ y > \frac{1}{2}x + 1 \end{cases}$ to someone new to the class.

Practice from Chapter 6

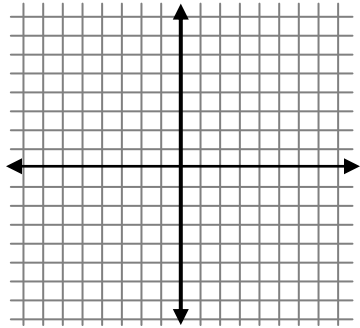
Now use what you have learned from class notes, benchmark quizzes, quizzes, and questions 1-7 above to answer the following questions.

Solve the system by graphing:

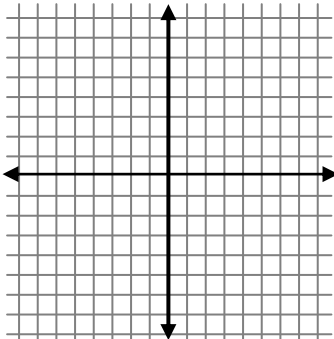
1) $2x - y = 6$
 $y = \frac{1}{2}x$



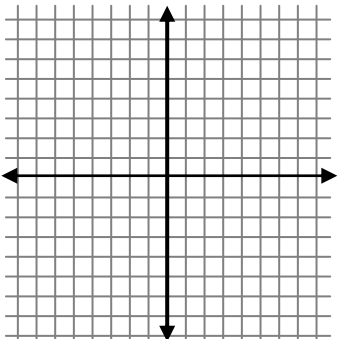
2) $2x - 4y < 8$
 $y \geq -\frac{3}{2}x + 2$



3) $y = \frac{2}{3}x - 2$
 $y = -\frac{1}{2}x + 5$



4) $2x - 5y < 10$
 $3x + 4y \geq -12$



Solve each system algebraically.

5) $y = 6x - 2$
 $y = 3x + 7$

6) $6x - 2y = -10$
 $y = -4x - 2$

7) $x - 3y = 11$
 $3x + 3y = -3$

8) $4x + 6y = 4$
 $4x - 3y = 22$

9) $7x - 2y = -1$
 $3x - 4y = 9$

10) $5x - 4y = -10$
 $2x + 3y = -4$

11) $6x + 5y = 2$
 $2x + 3y = -2$

12) $10x + 15y = 65$
 $3x + 10y = 36$

Review

Solve the following equations or inequalities:

13. $6 - (4x - 5) = 5x - 2(3x - 5)$

14. $3x - 5 - 6x < 3(2x - 8)$

15. $\frac{3}{4}x - 16 = -25$

Find the slope of each line between the following points:

16. $(-3, -7)$ and $(-11, -5)$

For questions 17-20, write the equation of each line in first point-slope form

$[y - y_1 = m(x - x_1)]$ and then in slope-intercept form $(y = mx + b)$ with the given

information:

17. slope = -2 and contains point $(3, -5)$

18. contains the point $(2, -5)$ and $(-6, -1)$

19. parallel to $y = \frac{2}{3}x - 5$ and contains the point $(6, -2)$

20. perpendicular to $y = \frac{1}{4}x - 3$ and passes through the point $(-8, 3)$.

21. **Write the following in standard form:** $y = -\frac{2}{3}x - 5$

22. **Write the following in slope-intercept form:** $3x - 7y = 28$