

Algebra 1 Fall Semester Review

Name _____

Simplify:

1. $2(x - 4) - 4(6x - 12)$

2. $(4x^2 - 6x + 12) - (x^2 + 3x - 11)$

3. $(3x^2 - 7x - 11) - (-3x^2 - 5x - 4)$

4. $5x + 3x^2 - 8 - 7x^2 + 23$

Evaluate if $x = 3$; $y = -5$; $z = -1$

5. $\frac{6yz}{x}$

6. $4x - yz$

7. $3z^2 - xy$

Solve:

8. $2x - 15 = -3x + 40$

9. $4(x - 5) + 8 = 7x + 18$

10. $\frac{x+2}{5} = \frac{x-3}{2}$

11. $\frac{4}{5}x + 9 = -3$

12. $2 = \frac{3}{4}x - 7$

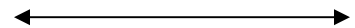
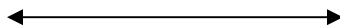
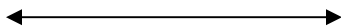
13. $4(x - 3) - (2 - 3x) = 6(x + 7)$

Solve and graph:

14. $-2x - 7 \geq 17$

15. $7x + 18 < 4x + 6$

16. $-5x - 12 > -3x + 4$



Solve:

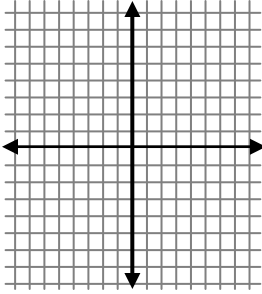
17. $|x| - 7 = 8$

18. $|x - 3| > 13$

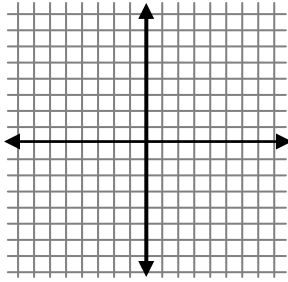
19. $|2x + 2| \leq 10$

Graph:

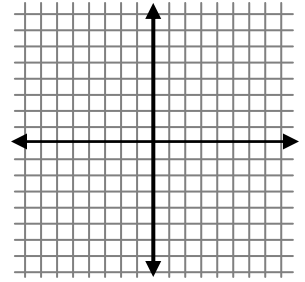
20. $y = -\frac{1}{3}x + 5$



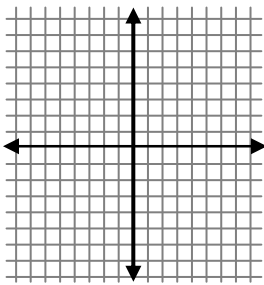
21. $3x - 5y = 30$



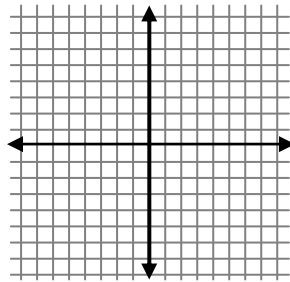
22. $x = -3$



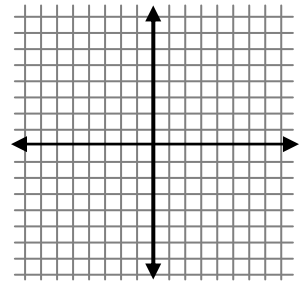
23. $y < -2x + 3$



24. $3x - 2y < 6$

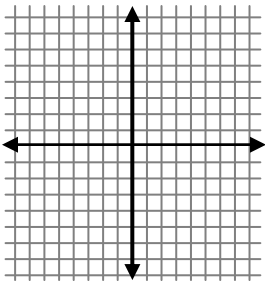


25. $y > 1$

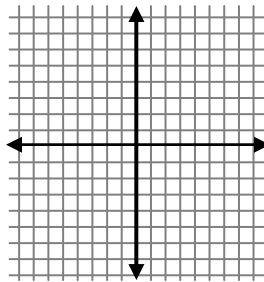


Solve the Systems by graphing:

26. $y = -3x + 2$
 $2x - y = 6$



27. $y < -\frac{2}{3}x$
 $5x - 2y > -10$



28. Find the slope of the line that passes through

a. $(-2, 7)$ and $(3, -3)$

b. $(-5, 9)$ and $(-5, 3)$

29. Find the slope and y intercept:

a. $y = 5x - 6$

b. $-4x + 6y = -30$

30. Find the equation of the line that passes through (6, -3) with a slope of 5.

31. Find the equation of the line that passes through (-2, -5) and (1, 7).

32. Find the equation of the line parallel to $y = 2x + 8$ and passes through (4, -6).

33. Find the equation of the line that is perpendicular to $y = \frac{2}{3}x - 5$ and passes through (6, -1).

34. Find the x and y intercepts:

a. $4x - 3y = 12$

b. $-2x + 7y = -28$

x-int: (,) y-int: (,)

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35. Does (-3, 4) lie on the line $y = 2x + 10$? Show your work to prove it!!

36. Solve each system of equations using the most appropriate method to find the point of intersection.

a. $y = -2x + 3$
 $y = -5x - 33$

b. $y = 3x - 1$
 $-2x + y = 2$

c. $5x + 2y = 9$
 $2x + 3y = -3$

d. $7x - 3y = 37$
 $2x - y = 12$

37. Simplify:

a. $x^2 \cdot x^4 \cdot x^3$

b. $(2x^2y)^3 \cdot (-3xy^2)^2$

c. $\frac{12x^5y^{-3}}{15x^{-2}y}$

d. $\frac{5x^0y^{-4}}{10xy^2}$