Name_____

Algebra 1
Fall Semester Review #1

Chapter 1

Simplify

1. $5x + 3x^2 - 8 - 7x^2 + 23$

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

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

3. $4x - yz$

4. $3z^2 - xy$

5. $y^2 + 4xz \div 6$

Chapter 2

Solve each equation.

6. $3x + 8 = 9x + 2$

7. $4(2x + 1) = -20$

8. $\frac{3}{5}x + 8 = 2$

9. $4x + 3(x - 2) = 14 - 3x$

10. $7(x - 2) - 2(x - 7) = 15$

11. $\frac{2}{x+6} = \frac{-3}{x+4}$

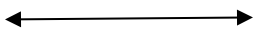
Chapter 3

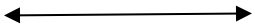
Solve each inequality and graph on a number line.

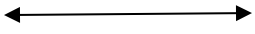
12. $3x - 4 > 17$

13. $-8x \geq 24$

14. $7x - 3 < 10x + 15$







Solve.

15. $|2x + 5| = 7$

16. $|x + 7| - 5 = 6$

17. $-2|x - 3| + 12 = 4$

18. $|x - 4| + 2 \leq 7$

19. $|3x - 1| + 4 > 9$

Chapter 4

Determine which quadrant or axis each of the following points lie.

20. (4, -3)

21. (0, 8)

22. (-5, -2)

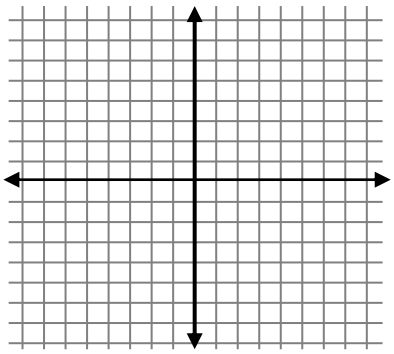
23. (3, 0)

24. (-9, 4)

25. Plot the following points on the coordinate system:

A (-6, -3) B (1, -4)

C (5, 0) D (-2, 1)



Chapter 5 - Has its own review page

Chapter 6

Find the point of intersection (solve). Use any method.

26. $x = y - 3$
$4x + 2y = 48$

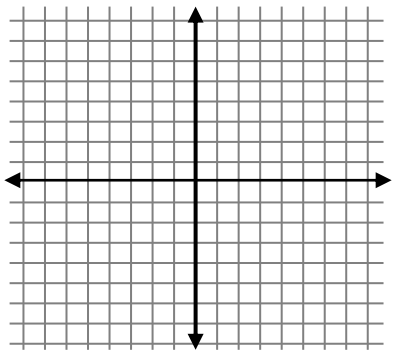
27. $y = 4x - 13$
$y = -x - 3$

28. $2x + 4y = -14$
$3x - 4y = 9$

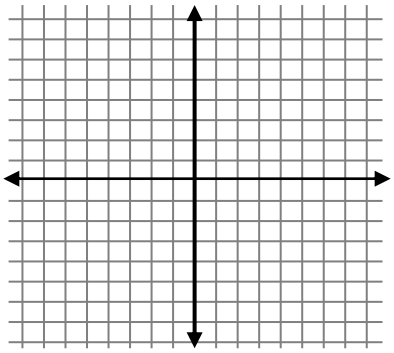
29. $3x - 2y = 6$
$6x + 5y = 12$

Graph the solution set:

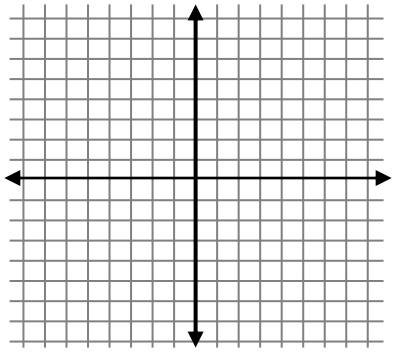
30. $y < \frac{1}{3}x - 5$



31. $y \geq -2x + 4$



32. $y < x + 5$
$y > -x - 2$



Chapter 7

Simplify

33. $\frac{x^{-4}y^{7}}{xy^{2}}$

34. $(3x^{3})^{2}$

35. $\frac{12x^{4}y}{4xy^{3}}$

36. $(4xy)(3x^{4})(xy)$

37. 8^{-2}

38. 12^{0}

39. $\left(2x^{4}y\right)^{3}\left(x^{5}y\right)^{6}$

40. $\left(5a^{3}b^{-7}\right)^{2}$

41. $2^{3} \cdot 2^{2}$