Name: _____

Period: _____

Summer Assignment

for

Algebra 2 Honors

Bender

Directions:

This packet should be completed by **September 4, 2015**.

Make sure to bring the packet to class on the first week of school. Questions on the packet will be addressed that week.

All of these problems should be done **WITHOUT A CALCULATOR**.

You will have a test on the topics related to **#s 1-39** presented in this packet during the **second week of school**. **This first test will be a no calculator test**.

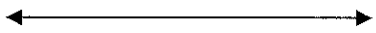
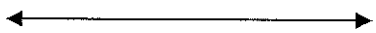
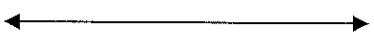
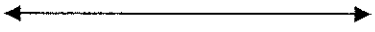
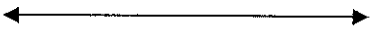
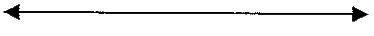
For help, visit the website http://mathispower4u.yolasite.com/algebra.php and look for the topic related to the question.

This summer packet will count towards a **test grade**.

Solve each equation for the given variable. Leave all answers as simplified fractions. No Decimals!

1. $-5x + 3 = 8x + 9 - 3$	2. $34 = 2x - 4(2 - 3x)$	3. $\frac{4}{3}(x - 4) = 8 + 2x$
4. $3\left(-\frac{3}{4}x + \frac{5}{6}\right) = \frac{4}{3}(3x - 5)$	5. $\frac{x-4}{5-2x} = -\frac{3}{4}$	6. $\frac{4(x-2)}{9} = \frac{3x-4}{-3}$

Solve and graph the solution on a number line.

7. $3 - 2x \geq 5$ 	8. $4x - 5(x - 3) > 3(x + 1) - 20$ 	9. $6x + 1 \leq 3(2x - \frac{1}{3})$ 
10. $-2 < 1 - 3x < 10$ 	11. $5x + 16 \leq 31$ or $8 - 4x < -12$ 	12. $-6 \leq 3x + 2 \leq 11$ 

Find the slope of the line passing through the given points.

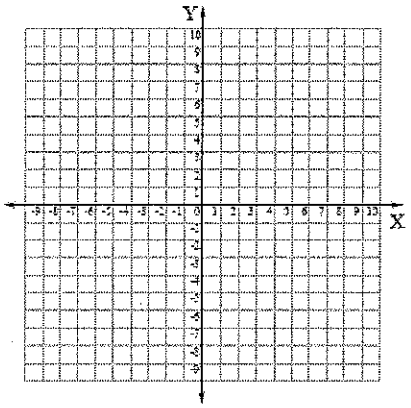
13. (2, 4) and (8, 12)	14. (-5, 4) and (-5, 9)	15. (5, 2) and (3, 2)

Write the equation of the line in slope-intercept form ($y=mx+b$) with the given characteristics.

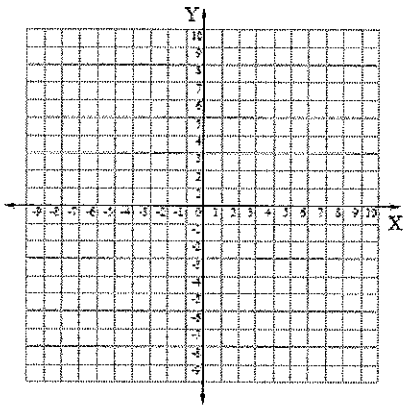
16. $m = 5$ and y-intercept of -3	17. $m = -\frac{1}{2}$ passing through (4, -5)	18. Passing through (-5, 4) and (3, -1)
19. Parallel to $y = -4x + 2$ passing through (2, -3)	20. Perpendicular to $2x - 3y = 6$ passing through (-8, 1)	

Graph the following lines.

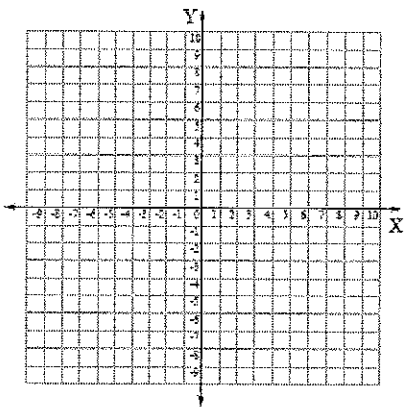
21. $y = -2x + 1$



22. $-4y + 3x = 12$

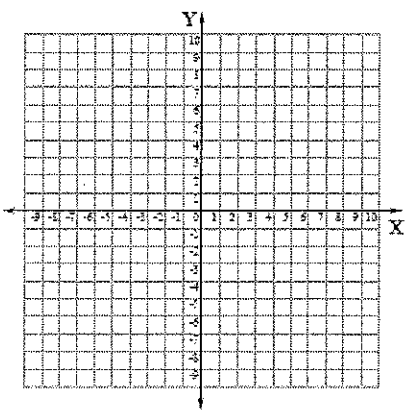


23. $\frac{4}{3}y + 3 = x - 5$

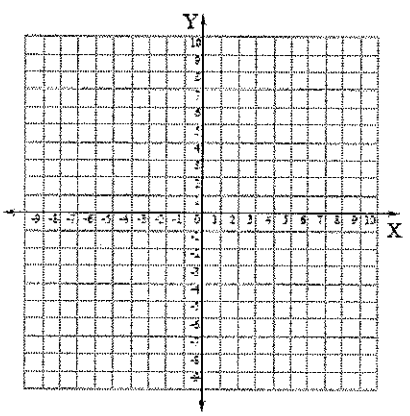


Solve the system of equations by graphing.

24. $x - 2y = -6$
$4x + 6y = 4$



25. $5x + y = -2$
$-10x - 2y = 4$



Solve the system by substitution

26. $5x+4y=32$ $9x-y=33$	27. $2x-y=23$ $x-9y=-14$

Solve the system by elimination

28. $8x-4y=-4$ $4y=3x+14$	29. $\frac{3}{5}x-\frac{3}{4}y=-3$ $\frac{2}{5}x+\frac{1}{3}y=8$

Set up a system of equations. Define your variables – then solve the system.

30. A group of friends takes a day-long trip down a river. The company that offers the tubing trip charges \$15 to rent a tube for a person to use and \$7.50 to rent a "cooler" tube, which is used to carry food and water in a cooler. The friends spend \$360 to rent a total of 26 tubes. How many of each type of tube do they rent?

Do the following problems WITHOUT a calculator

31. $-2\cdot5^2-7(5-8)$	32. $\frac{8}{9}+\frac{2}{3}+\frac{1}{2}$	33. $\frac{-5}{24}+\frac{2}{3}-\frac{1}{6}$
34. $\frac{12}{25}\cdot\frac{20}{21}$	35. $\frac{-7}{8}\div-2\frac{1}{10}$	36. $\frac{2}{3}\left(\frac{9}{2}-12\right)$

Solve each equation.

37. $2\|x-5\|+5=17$	38. $3\|2x-7\|-5=4$	39. $\|2x-3\|=\|x+3\|-2$

Factor the following. If it can't be factored, write "prime".

40. $x^2-13x-30$	41. $x^2-17x+60$	42. $-2x^2-7x-22$
43. $2x^2+11x-30$	44. $4x^2+9$	45. $5x^2-25x-30$
46. $72-32x^2$	47. $49x^2-26x+36$	48. $6x^3-15x^2-9x$

Solve for x by factoring.

49. $x^2+5=8x-10$	50. $x^2-10(x-1)=-11$	51. $5x^2-10x=0$

Solve for x

52. $\frac{x+1}{2x+2}=\frac{3}{2x}$	53. $(x+5)^2=36$	54. $\frac{x-3}{x-6}=\frac{x+1}{x+5}$

55. Given $f(x)=-3x^2-4x+1$

A. $f(-2)$ B. $f(3)$ C. $f(-1)-f(2)$

Simplify the following

56. $\frac{4x^5y^2}{10x^2y^7}$	57. $(-2x^3y^4)^3$	58. $\left(\frac{2x^5y}{3xy^7}\right)^3$	59. $3x^2 \bullet 4x \bullet 5x^4$
60. $3x^2(4x^2-5x-3)$	61. $(2x-5)^2$	62. $(5x-7)(3x+2)$	63. $-2x(4x+3)^2$