Name _____

Period _____

# Summer Assignment

for

Algebra 2A

Bender / Curtiss / Crampton

**Directions:**

This packet should be completed by the first day of school. Submit only the answer sheets and keep the questions. SHOW ALL YOUR WORK ON THE ANSWER SHEETS!!! Mark the ones you have questions on so that they can be addressed during the first week of school. Make sure to bring the packet to class on the first day of school.

You will be tested on the topics presented in this packet after the first two weeks of school. You will be given an opportunity to ask some questions in class in the days prior to the assessment.

If you need help, visit the website http://mathispower4u.yolasite.com/algebra.php
View the videos under Algebra 1 on the following topics:

1. Linear Equations in One Variable
2. Linear Equations in Two Variables
3. Absolute Value Equations and Absolute Value Inequalities
4. Linear Inequalities in Two Variables

This counts towards a **test grade**. Packets are due **TUESDAY, SEPTEMBER 8, 2015**

Name _____ Date _____

Chapter 1 and 2 Review Algebra 2 Summer Packet

Classify the following numbers into all the sets that they belong to – **counting numbers, whole numbers, integers, rational numbers, or irrational numbers**

1. $\frac{12\pi}{3\pi}$
2. $3\sqrt{48}$
3. $\frac{\sqrt{25}}{\sqrt{4}}$
4. $-2.1$
5. $0$
6. $0.123412341234...$

PEMDAS and Absolute Value. Evaluate the following for $x=2$, $y=-3$, $z=4$

7. $x(y+z)-y^2$
8. $3|y|-4|z|$
9. $-2|3y-x|$

Solve for x in the following linear equations, if possible:

10. $5x-3(2x-6)=3x-2(x-1)$
11. $\frac{3}{2}(2x-6)=x-2(3x-1)$
12. $|3x-5|=4$
13. $-\frac{1}{2}|3x-5|+7=2$

Solve for x in the following literal equations.

14. $5ax+2=2a(x-3)$
15. $2ax-5ac=3c(a+4b)$

Solve and graph the solution on the number line provided.

16. $3(x+2)\le 6x+3(7-x)$
17. $5\le 3-2x<11$
18. $3x+5<-1$ *and* $2x-5\ge 11$
19. $10(x+1)<3x-4$ *and* $2x+1<5(x+2)$
20. $2x+1>9$ *or* $6-3x>-9$
21. $\frac{3}{4}x-2<1$ *and* $\frac{2}{3}x-2\ge 0$
22. $3|2x-6|-11\le 4$
23. $2|3x+4|+21>9$
24. $3|2x-9|-16\ge 5$
25. $-3|3x+4|-1>20$

Word Problems:

26. The width of a rectangle is three less than twice the length. The perimeter of the rectangle is 348 inches. Find the lengths of the sides.

27. The sum of three consecutive integers is -24. Find the integers.

28. There are three consecutive odd integers. Two-fifths the first integer added to two-thirds the third integer is three less than the second integer. Find the largest integer.

29. Alex is 5 more than half Agnes's age. Twice Alex's age added to half Agnes's age is 37. Find their ages.

Functions. Find the following given:

$f(x)=x^2+4x+1$ $\quad g(x)=4x-3$ $\quad h(x)=\dfrac{2x+5}{x+1}$

30. $h(5)$ $\quad$ 31. $f(-5)$ $\quad$ 32. $g(2)$

33. $f(-2a)$ $\quad$ 34. $g(-3b)$ $\quad$ 35. $h(4c)$

36. $g(4x-3)$ $\quad$ 37. $h(2x+1)$

Slopes. Find the slopes of both lines, Describe the lines as rising falling, horizontal or vertical and determine whether lines 1 and 2 are parallel, perpendicular or neither:

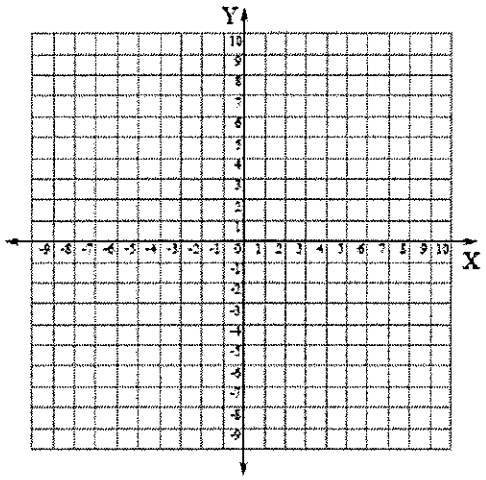
| Lines | Slopes | Rising, falling, horizontal or vertical | L1 and L2 are parallel, perpendicular or neither? |
|---|---|---|---|
| 38. L1: $y=\frac{2}{3}x-1$<br>L2: $3x+2y=30$ | m1 = _____<br>m2 = _____ | _____<br>_____ | _____ |
| 39. L1: $y=4$<br>L2: the y-axis | m1 = _____<br>m2 = _____ | _____<br>_____ | _____ |
| 40. L1: the line passing through (-2, 5) and (-5, -1)<br>L2: the line passing through (1, -3) and (3, -4) | m1 = _____<br>m2 = _____ | _____<br>_____ | _____ |

Writing Linear Equations. Write the equation of the line described .

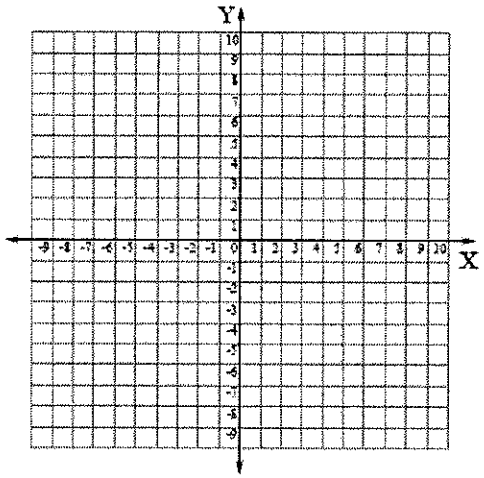
| |
|---|
| 41. The line with slope $-\frac{2}{3}$ passing through (6, 4). |
| 42. The line passing through (4, -5) and (-3, 9). |
| 43. The line passing through (2, -1) and (2, 8). |
| 44. The line with $x$-intercept 4 and $y$-intercept -1. |
| 45. The line parallel to $y=-2x+5$ passing through the point (-8, -1). |
| 46. The line perpendicular to $y=3x-1$ passing through (15, -3). |
| 47. The line perpendicular to $5x-4y=8$ passing through (20, 2). |

Graph the following:

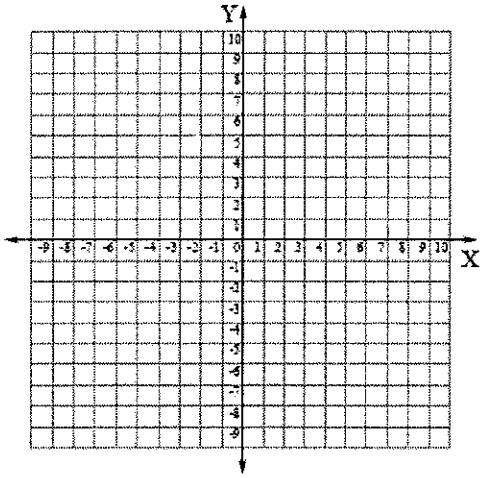
48. $y = \frac{2}{3}x - 1$



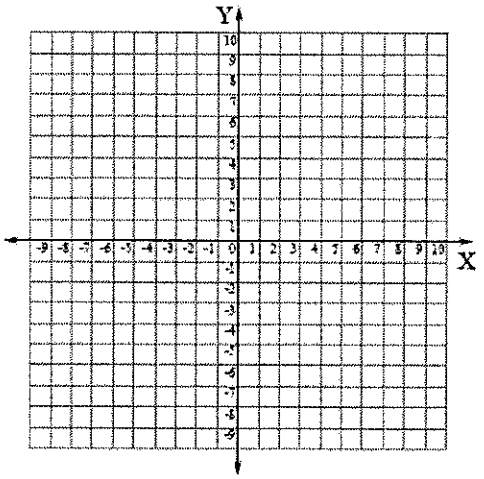

49. $3x - 4y = 24$



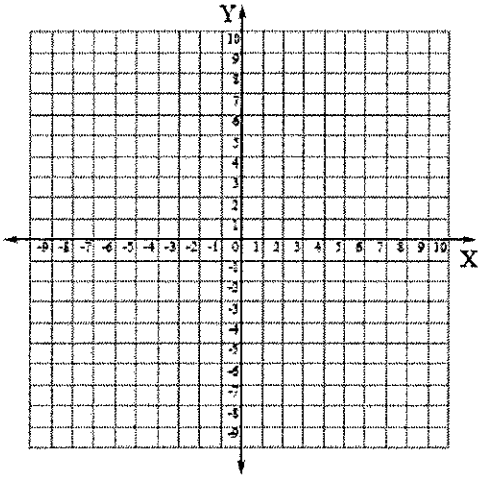

50. $x = -1$



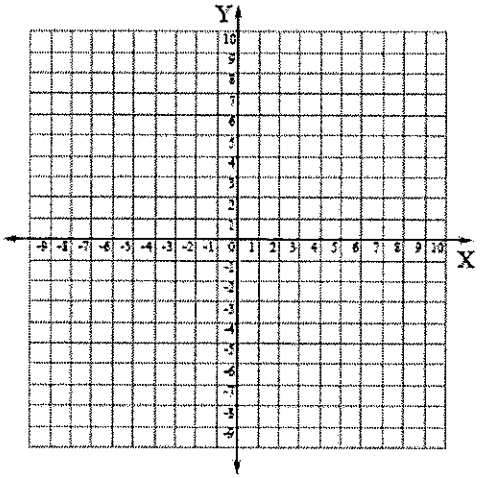

51. $y < x + 5$




52. $4x - y \geq 8$




53. $y \leq 5$



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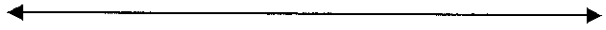
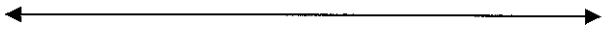
**Answers and work:**

| | |
|---|---|
| 1. | 2. |
| 3. | 4. |
| 5. | 6. |
| 7. | 8. |
| 9. | 10. |
| 11. | 12. |
| 13. | 14. |
| 15. | 16.  |

| | |
|---|---|
| 17.  | 18.  |
| 19.  | 20.  |
| 21.  | 22.  |
| 23.  | 24.  |
| 25.  | 26. |
| 27. | 28. |
| 29. | 30. |

| | |
|---|---|
| 31. | 32. |
| 33. | 34. |
| 35. | 36. |
| 37. | 38. m1 = _____<br>rising / falling / horizontal / vertical<br>m2 = _____<br>rising / falling / horizontal / vertical<br><br>parallel / perpendicular/ neither |
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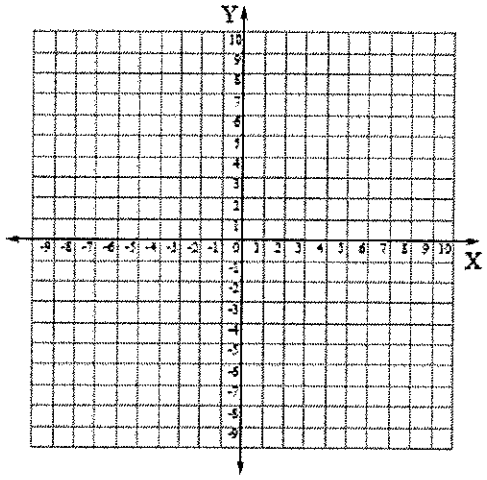
| 41. | 42. |
| 43. | 44. |
| 45. | 46. |
| 47. | |

Graph the following:

48. $y = \frac{2}{3}x - 1$

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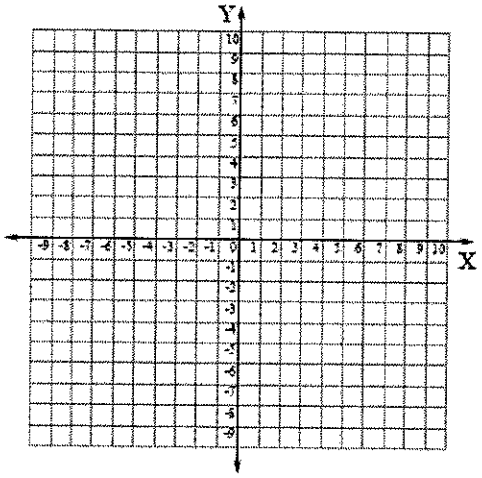


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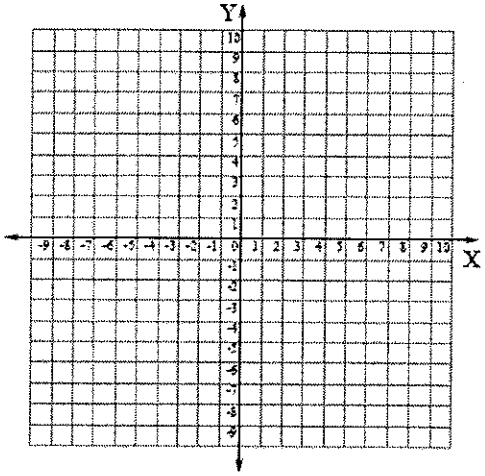


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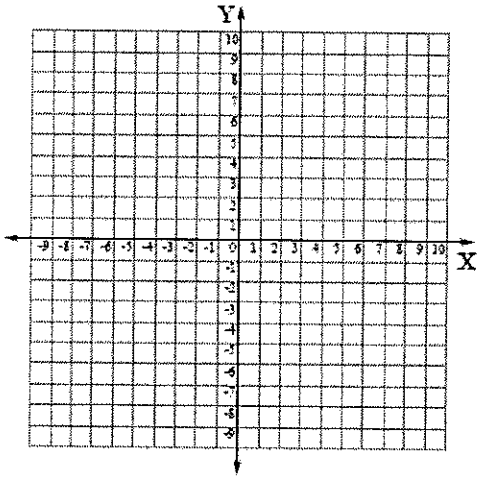


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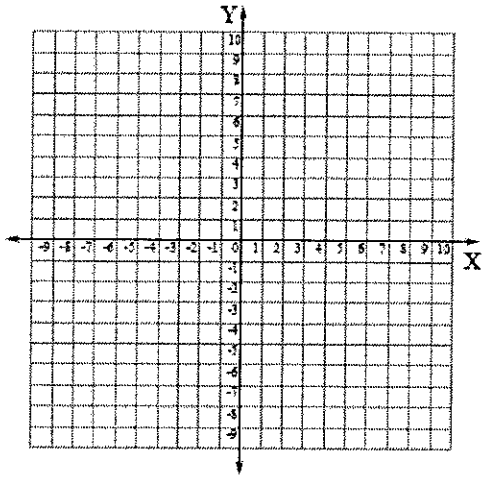


53. $y \leq 5$