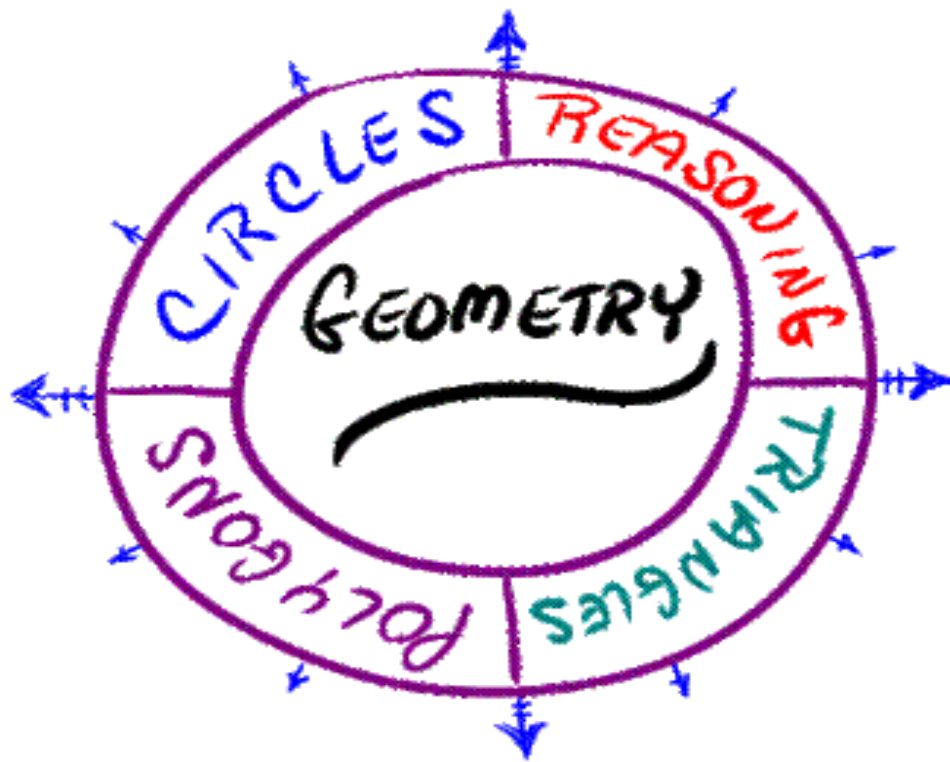




Lawrence High School's CP Geometry 2019 Optional Summer Assignment





Directions: This is an OPTIONAL Summer Assignment that will help you to be best prepared for your scheduled math class in September.

- Complete ALL problems.
- Show all your neat and organized work for every problem on a separate piece of paper
- Put your name on each page you use to show your work
- You may choose to turn this into your teacher the first full week of school for consideration for extra credit.

Resources: You have your notes and handouts from Algebra I that will be helpful. For additional examples and support you can reference any of the sites listed below and search the skill/concept.

- KhanAcademy.com
- You Tube.com or Teacher Tube.com
- MathIsPower4u.com
- IXL.com



Solve each equation. Show all work.

1. $-\frac{x}{9} = -8$

2. $x - \frac{2}{3} = \frac{1}{8}$

3. $3.8n - 13 = 1.4n + 5$

4. $2.5(2x + 5) = 5x + 12.5$

5. $\frac{3}{4}x + \frac{1}{8} = \frac{3}{4}(x + 8)$

6. $9(8d - 5) + 13 = 12d - 2$

7. Which of the following equations has exactly one solution?

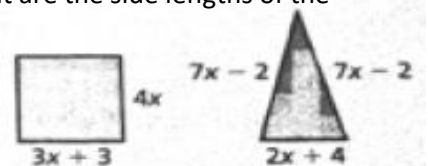
A. $\frac{2}{3}(x + 6) = \frac{2}{3}x + 4$

B. $\frac{3}{7}y + 13 = 13 - \frac{3}{7}y$

C. $\frac{4}{5}(n + \frac{1}{3}) = \frac{4}{5}n + \frac{1}{3}$

D. $\frac{7}{8}(2t + \frac{1}{8}) = \frac{7}{4}t$

8. The perimeter of the square is equal to the perimeter of the triangle. What are the side lengths of the square?



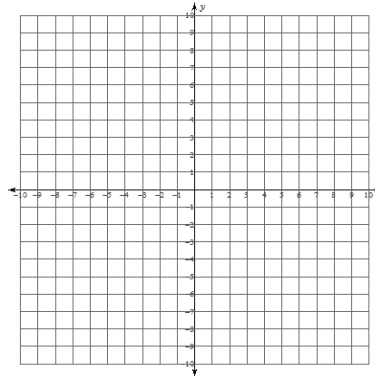
9. Two scientists are measuring Lava temperatures. One scientist records a temperature of 1725°F. The other scientist records a temperature of 950°C. Which is the greater temperature?

(Use $C = \frac{5}{9}(F - 32)$)

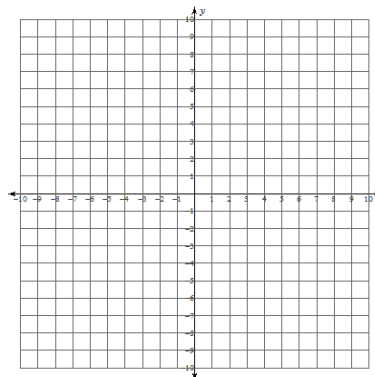


10. Your profit for mowing lawns this week is \$24. You are paid \$8 per hour and you paid \$40 for gas for the lawn mower. How many hours did you work this week? Set up and solve an equation.

11. The vertices of a triangle are $A(2, 5)$, $B(1, 2)$, and $C(3, 1)$. Reflect the triangle in the x axis. What are the coordinates of the image?



12. The vertices of a triangle are $A(2, 4)$, $B(2, 1)$, and $C(5, 1)$. Dilate the triangle with respect to the origin by a scale factor of 2. Then translate the triangle 2 units left and 1 unit up. What are the coordinates of the image?



Determine if each equation is linear. If so, rewrite it in the form $Ax + By = C$.

13. $y = 2x^2 - 3$

14. $y = -4x + 1$

15. $8 - y = x$

Graph each equation.



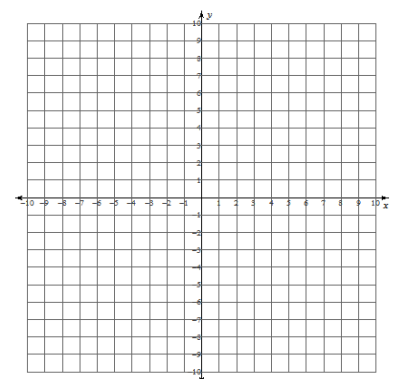
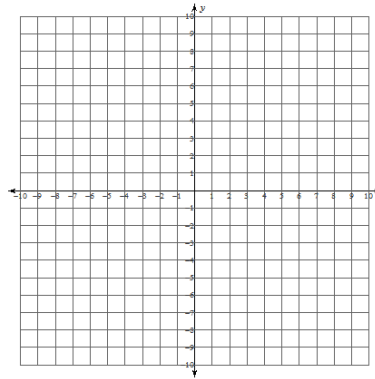
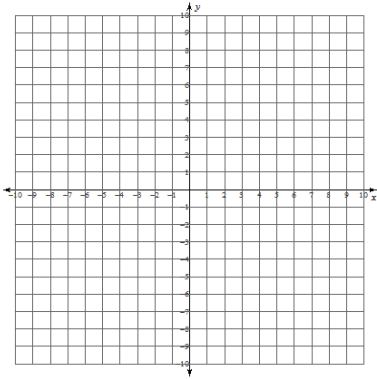
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16. $y = x + 4$

17. $y - 3 = 0$

18. $2x + y = 4$



except

20. (3

1. (5, 8

22. (2, 3), (4, 3)

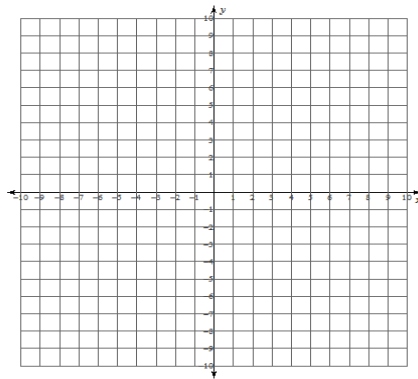
23. Parallel to the graph of $3x - 3y = 5$ and passes through (1, 0)

24. Perpendicular to the graph of $x - 3y = 6$ and passes through (7, -5)

Solve each system of equations by graphing.

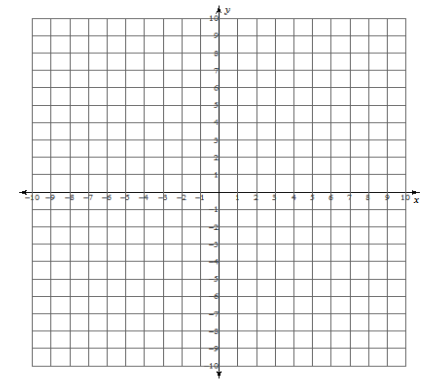
25. $y = 10 - x$

$Y = x + 1$



26. $2x + y = -5$

$3x + 3y = 9$



Solve each system using substitution.

27. $2x - y = 7$

$8x + y = 3$

28. $Y = 2x - 4$

$y - 2x = 2$



Solve each system using elimination.

29. $2x + 3y = 0$

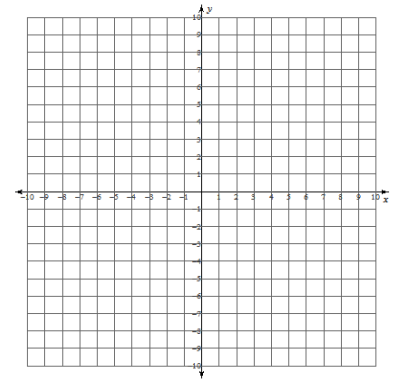
$3x + y = 7$

30. $2x - 2y = 16$

$3x + y = 4$

31. The number of y vocabulary words you learn after x weeks is represented by the equation $y = 15x$.

a. Graph the equation and interpret the slope.

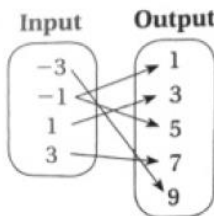


b. How many new vocabulary words do you learn after 5 weeks?

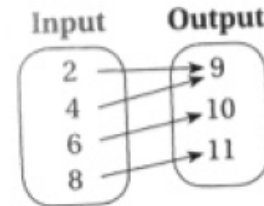
c. How many more vocabulary words do you learn after 6 weeks than after 4 weeks

Tell whether each relation is a function and explain why.

32.



33.





34. Water Ski: The table shows the number of meters a water skier travels in x minutes.

Minutes x	1	2	3	4	5
Meters y	600	1200	1800	2400	3000

- Write a function that relates x to y .
- Graph the linear function.
- At this rate, how many kilometers would the water skier travel in 12 minutes?

Simplify each expression.

35. $\frac{(2x^4 \cdot 2x)^{-4}}{-2y^{-1}}$

36. $\left(\frac{x^{-1}y^4}{2xy^{-3}}\right)^2$

37. $\frac{n^{-2}}{n^2(m^0)^{-1}}$

38. $\frac{2x^2 \cdot y^4}{-2xy^3}$

Factor the following completely

39. $x^2 - x - 56$

40. $x^2 - 7x - 12$

41. $3x^2 + 9x - 30$

42. $9x^2 - 18x + 5$

43. $x^2 - 9$

44. $4x^2 - 25$

45. The area of a rectangle whose sides are x and $x + 6$ is 27. Find the dimensions of the rectangle. Use an equation and solve by factoring.

Simplify. Leave your answer in simplest radical form.

46. $\sqrt{63}$

47. $\sqrt{252}$

48. $\sqrt{75n^3}$



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49. Jessica is making a collage of rectangles for her art project. The largest rectangle is 12 inches long and 8 inches wide. What is the length of the diagonal of the rectangle?

50. Jamal and Gloria start hiking from the same point. After Bill hikes 7 miles due east and Jamal hikes 4 miles due north, how far apart are the two hikers?