Westerly High School
Math Department
Summer Packet
for students entering
Geometry

Summer 2016

Note: Enclosed, students will find the review material to complete over the summer. As with reading, continued math over the summer will help keep you updated and ready to go onto your next course with your BEST abilities. **In order to ensure that you are appropriately placed in, and prepared for, the next math course in the sequence of study, you will be required to take a course pre-assessment when you return the next school year**. It is YOUR responsibility to prepare for this course pre-assessment when you return to next school year. The following website listed below is an excellent tutorial and free site that you are able to utilize for any review needed.

www.khanacademy.org
-click on learn and go to 'math'
-From there click on your area of concern to find video examples

It is the expectation that you will have this completed ***by the first day of school***.

Good luck! We look forward to meeting you in the fall.
Happy summer!

Sincerely,

The Westerly High School Geometry Teachers

Part I: Numeracy and Operation Skills (Should be able to complete WITHOUT a calculator)

For numbers 1-13, simplify the following:

1. $0 \div 5.928$

2. $5.928 \div 0$

3. 9^3

4. -7^2

5. $-(-10)^2$

6. $(-3)^4$

7. $\left(\frac{5}{6}\right)^2$

8. $\sqrt{196}$

9. $\sqrt{169}$

10. $\sqrt{121}$

11. $-\sqrt{81}$

12. $8 + 3[3 - (1)^6]$

13. $3^4 + 12 \div 3 - (1 - 9)$

Part II: Algebraic Skills: Solving Equations

For numbers 14-26, solve the following variables:

14. $44 = 14 - 2a$

15. $33 = 17 - 2y$

16. $\frac{f}{45} - \frac{2}{9} = \frac{2}{9}$

17. $43a + 10 - 26a = 27$

18. $33d + 13 - 30d = 46$

19. $50q - 43 = 52q - 81$

20. $49p - 33 = 57p - 89$

21. $n - 8 + n = 1 - 4n$

22. $-3y + 3 - 2y = -1 + y$

23. The formula for area of a circle, A, is $A = \pi r^2$ where r represents the radius. Solve for r.

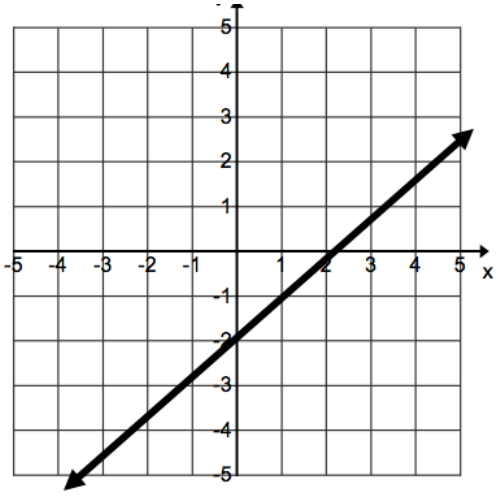
24. Solve $4x - z = y$ for x.

25. $\frac{5}{6} = \frac{x}{30}$

26. $\frac{3}{8} = \frac{x}{72}$

Part III: Algebraic Skills: Slope/ Writing and Solving Linear Equations

27. Find the x- and y- intercepts.

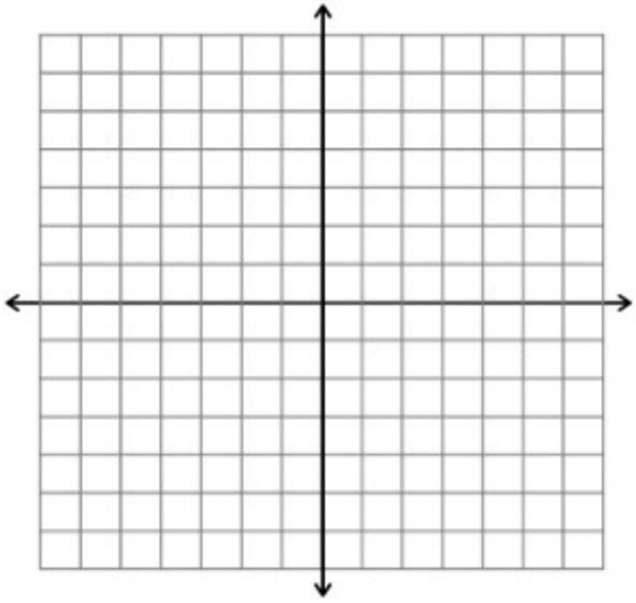


28. Find the x-and y-intercepts of:

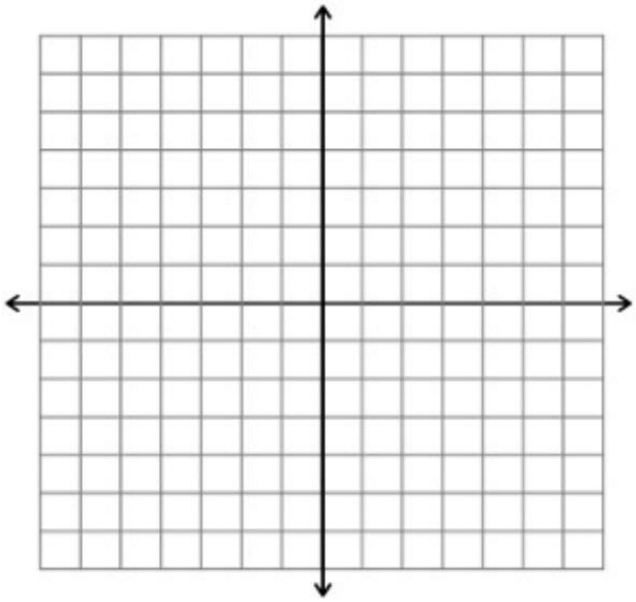
A. $2x - 4y = -12$

B. $-2x - y = 2$

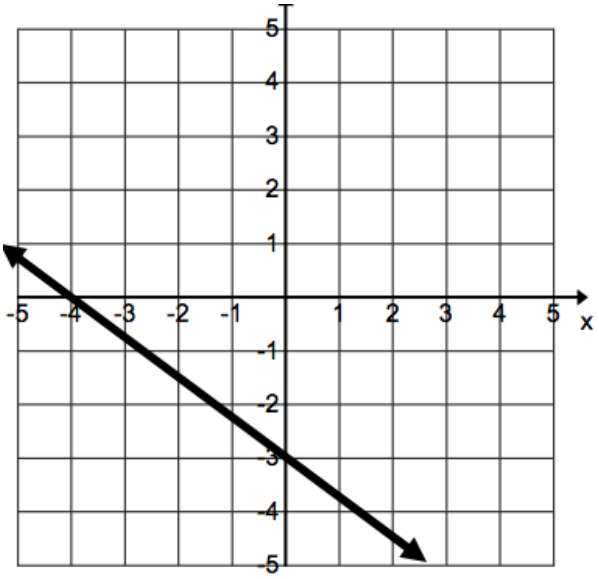
29. **Use intercepts to graph the line** described by the equation $3x + 2y = 6$.



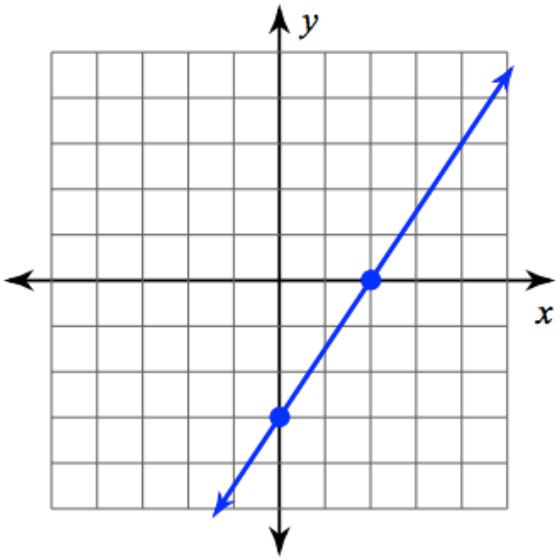
30. **Use intercepts to graph the line** described by the equation $-2x = 4 + 4y$



31. Given the graph below, find the slope of the line.



32. Given the graph below, find the slope of the line.



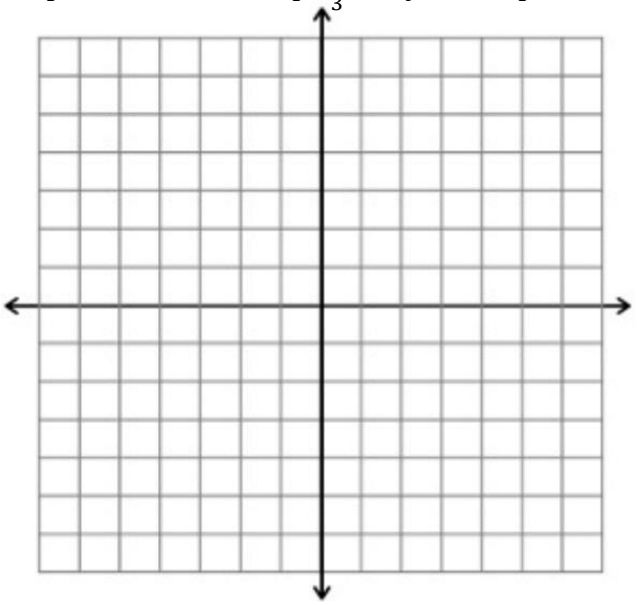
33. Describe what a graph looks like when a slope is positive, negative, zero, and undefined.

34. Find the slope of the line that contains (1,6) and (10, -9).

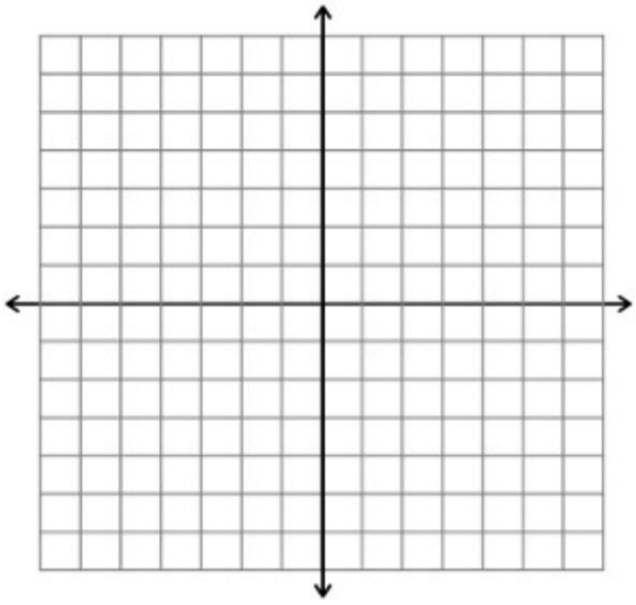
35. Find the slope of the line that contains (-10,0) and (-2, -4)

36. Find the slope of the line described by $x - 3y = -6$

37. Graph the line with slope $\frac{7}{3}$ and y-intercept -2.



38. Write the equation $4x + 8y = -24$ in slope- intercept form. Then graph the line described by the equation.



39. Write the equation that describes the line with slope =2 and y-intercept = $\frac{3}{2}$ in slope-intercept form.

40. Write the equation that describes the line that passes through (2,3) and is perpendicular to the line $y = \frac{1}{3}x - \frac{4}{3}$.

41. Write the equation that describes the line that passes through $(-5, -4)$ and is parallel to the line $y = 7x + 1$.

Part IV: Algebraic Skills: Systems of Equations

42. Solve $\begin{cases} 3x + y = -3 \\ y = x + 5 \end{cases}$ by using substitution. Express your answer as an ordered pair.

43. Solve $\begin{cases} 4x - 4y = -16 \\ x - 2y = -12 \end{cases}$ by using substitution. Express your answer as an ordered pair.

44. Solve $\begin{cases} 3x - 6y = 12 \\ 2x + 6y = -12 \end{cases}$ by using elimination. Express your answer as an ordered pair.

45. Solve $\begin{cases} 2x - 5y = -7 \\ 5x - 3y = 11 \end{cases}$ by using elimination. Express your answer as an ordered pair.

Part V: Algebraic Skills: Quadratics

For numbers 46-53, multiply the following:

46. $(n-5)(n-1)$

47. $(n+2)(n+4)$

48. $(z+3)(z-2)$

49. $(x+4)(x+2)$

50. $(p-8)^2$

51. $(x-4)^2$

52. $(r+7)(r-7)$

53. $(q+6)(q-6)$

For numbers 54-57, factor the following.

54. $x^2+101x+100$

55. $a^2+14a+48$

56. $p^2+3p-18$

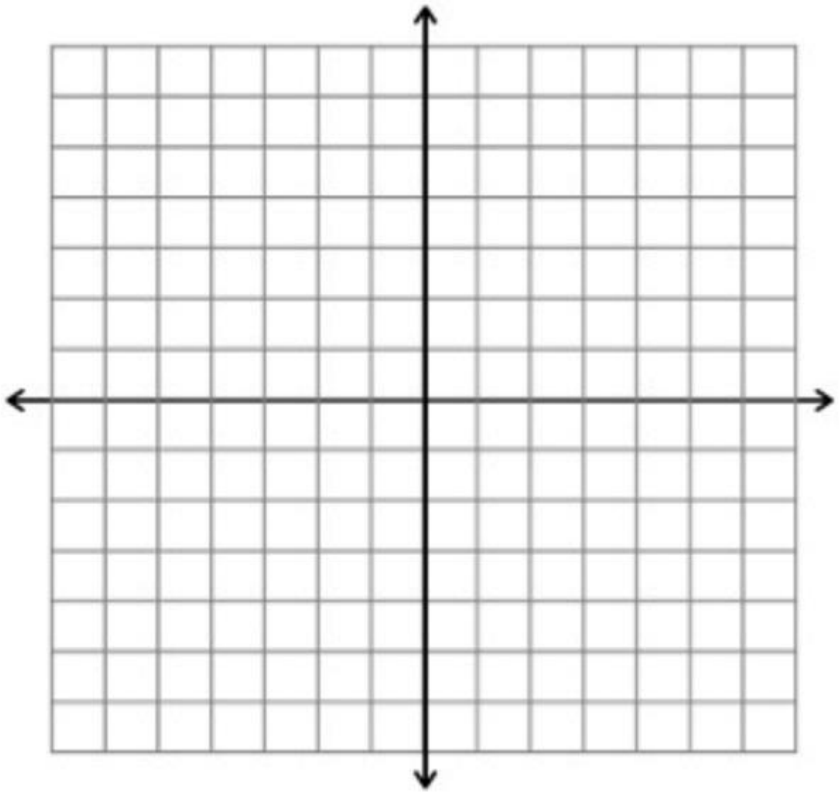
57. $3x^2+2x-8$

58. Solve the quadratic by using the quadratic formula.

$$b^2 - 4b + b = 0$$

59. Graph the following quadratic. Then, answer the following questions.

$$y = x^2 + 2x + 1$$



A. State the x-intercepts: _____

B. State the y-intercept: _____

C. State the vertex: _____