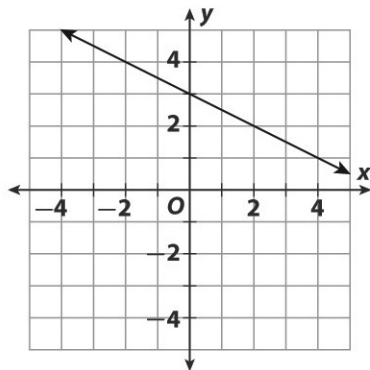


Summer 2016 Assignment – Gulf High School Geometry & Geometry Honors

Directions: Use your own paper to show ALL work for each problem. Label each problem and mark your final answers clearly by circling or putting a box around it. All work must be shown in order to receive credit. Write final answers on this packet.

1. Solve the inequality $-\frac{3}{4} < \frac{y}{8} + 1\frac{1}{4}$.
2. Write $x^{\frac{2}{7}}$ in radical form.
3. What is the product of $(2x - 1)$ and $(3x + 1)$?
4. Franco has x number of quarters, 12 one-dollar bills, and half as many ten-dollar bills as quarters. What expression represents the amount of money Franco has?
5. What is the solution to $9q + 24 = 3(3q - 4)$?
6. The formula a university uses to charge tuition is $T = \$500h - \275 where h is the number of class hours a student is taking. What is the formula solved for h ?
7. What is the equation of the graph below?



8. What is the fourth term of a sequence with the recursive rule $f(n) = -2f(n-1)$; $f(1) = -3.5$?
9. What are the x - and y -intercepts of $7x - \frac{7}{2}y = -49$?
10. A cup contains 75 milliliters of water, from which 3 milliliters of water are poured out every second. What is the function that shows the amount of water in the cup after t seconds?

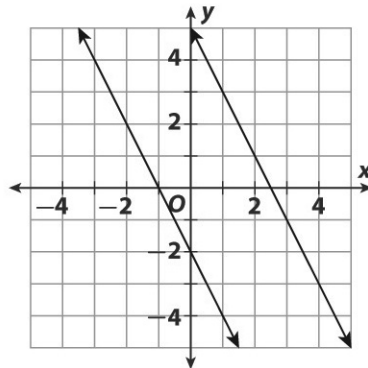
11. Create a function for the arithmetic sequence that models the pay scale represented in the table below.

Hours of Work	1	2	3	4
Pay	\$11	\$20	\$29	\$38

12. What is the domain of $f(x) = \frac{4+x}{12}$?

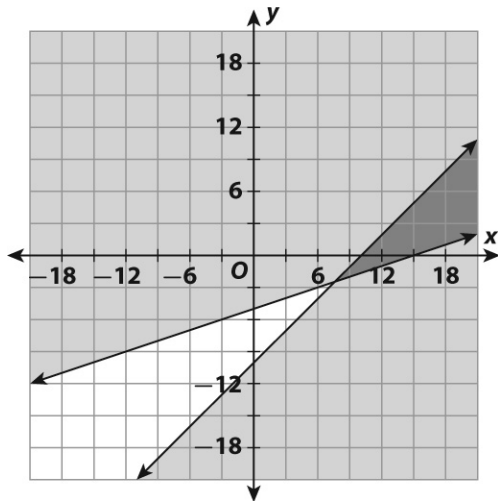
13. Does the linear inequality $y < -4x + 32$ have the ordered pair (0, 8) as a solution?

14. How many solutions does the system of equations graphed below have?



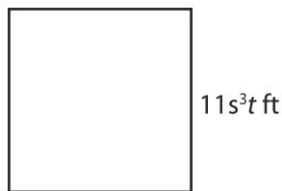
15. What is the solution for the system of equations $2y = 2x+2$ and $y = x+2$?

16. Name an ordered pair that is a solution of the system graphed below.

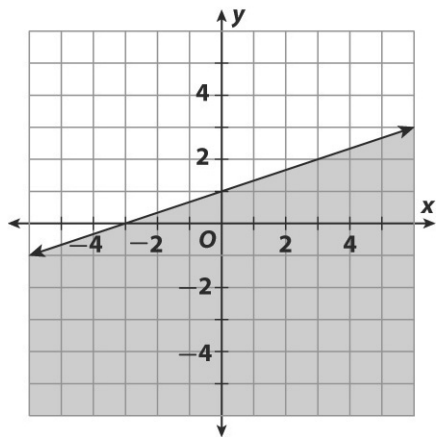


17. Alex is buying drinks and snacks for a party and wants to spend less than \$45. Drinks cost \$2 each, and snacks cost \$4 each. He needs to buy at least 11 drinks and snacks altogether. What is the system that represents this situation?

18. What is the area of the square modeled below.



19. What is the product of $2x - 15$ and $2x + 15$?
20. What is the sum of $(-x^2 - 5x - 6)$ and $(2x^2 - 7x + 8)$?
21. Factor $9x^2 - 60x + 100$.
22. Does $f(x) = x^2 + 4x$ have a maximum or minimum value, and what is the value?
23. What are the solutions to $(x - 3)^2 + 8 = 12$?
24. The perimeter of a rectangle is 160 feet. The width is 20 feet less than the length. What are the dimensions of the rectangle?
25. Solve $x^2 + 14x = -48$.
26. Simplify the expression $8^2 - 27^{\frac{2}{3}}$.
27. Let $f(x) = \begin{cases} 2x + 3, & x \geq 2 \\ -x + 5, & x < 2 \end{cases}$
What is the value of $f(5)$?
28. Solve $|2x - 1| = 11$.
29. What is the inequality shown on the graph?



30. What is an equation for a line with a y-intercept of $(0, -1)$ that contains the point $(-4, -18)$?
31. Monday, Meghan earned \$16 per hour for m hours of work. Tuesday, she earned \$20 per hour for t hours of work. She also received a \$75 bonus. Create an expression that shows how much Meghan earned in total.
32. What is the rate of change for the chart below?

x	1	2	3	4
$f(x)$	-2	3	8	13

33. A van is traveling at a speed of 1.5 kilometers per minute. Approximately how fast is the van traveling in miles per hour?
34. What is the slope of a line that contains the points $(-4, -8)$ and $(-2, -8)$?
35. The table shows some of the solutions of the equation $y = \frac{-3x}{10}$. What is the missing entry?

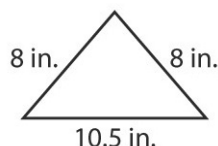
x	0	2	4	6
y	0	$-\frac{3}{5}$?	$-\frac{9}{5}$

36. The functions $h(x) = -x + 1$ and $g(x) = 2x - 5$ are graphed. What is the x-value of the point of intersection of $h(x)$ and $g(x)$?

37. What is $f(x) = -x^2 - 5x$ evaluated for $x = -0.6$?

38. Solve $3(x + 2) + 5(x + 2) = 64$.

39. Find the approximate perimeter of the triangle in centimeters.



40. What is the x-value of the solution of the system $\begin{cases} 2y = 3x + 4 \\ 3y - 2x = -4 \end{cases}$?

41. What is the maximum value of the function $y = -2(x - 4)^2 + 11$?

42. The sum of the measures of two angles is 180° . The difference between the angle measures is 70° . What is the measure of the smaller angle?

43. What is the y-value of the solution of the system $\begin{cases} 6y = 6x - 40 \\ 4y = 12x + 48 \end{cases}$?

44. Bayshore High School has 900 students, and Ocean High School has 1140 students. The number of Bayshore students is increasing at a rate of 20 students per year, while the number of Ocean High students is decreasing by 10 students per year. In about how many years will the two schools have the same number of students?

45.

x	-5	2	3	4
y	1	3	8	13

Raj graphed the line of best fit for the data above. What is the slope of the line?

Name _____ Date _____ Class _____

46. At what x -value does the graph of
 $f(x) = x^2 - 16x + 64$ touch the x -axis?

47. Use the quadratic formula to solve
 $0 = 8x^2 + 10x - 2$. What is the positive root, rounded to the nearest hundredth?

48. What is the x -value of the solution to the system $\begin{cases} y = 2x \\ y = \frac{1}{2}x + 6 \end{cases}$?

49. What is the y -value of the vertex of the graph of $y = -3x^2 - 6$?

50. Factor $8x^2 + 14x + 5$.