

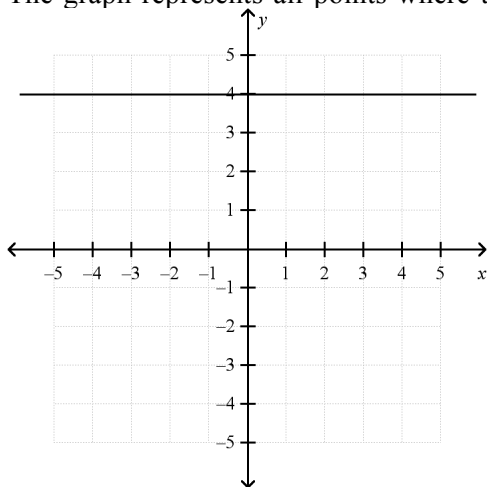
Summer Assignment For Geometry and Liberal Arts 2**Short Answer**

- Patrick pays \$10 per month for recycling. He expects the cost to increase 90¢ every 3 years. What is the slope that represents his cost change per year?
- Mason has planted 6 rows in the vegetable garden. He continues to work, planting 1 row every 2 hours. Write a function to represent this situation.
- Solve $\frac{z}{9} + 5 = 10$.
- Solve.
 $-2z + 3 + 7z = -12$
- Solve.
 $3(9 - 8x - 4x) + 8(3x + 4) = 11$
- Solve $2 + \frac{x}{2} + \frac{3x}{8} = 16$.
- Solve $\frac{3}{4} + \frac{4a}{7} = \frac{6a}{7} + \frac{7}{8}$.
- Evaluate the expression $x + y$ for $x = -3$ and $y = 7$.
- Solve $y + 7.2 = -8.6$.
- Solve for x . $\frac{18}{12} = \frac{45}{x}$
- Solve $8n - 4 = 52$.
- Wednesday's low temperature in Indianapolis was 25°F. The same day in Houston, the low temperature was above 56°F. at least how many degrees warmer was the low temperature in Houston than the low in Indianapolis?
- It takes 78 days to create a custom motorcycle. Write an algebraic expression to describe the number of days it takes to create n custom motorcycles. How many days will it take to create 6 custom motorcycles?
- Find the missing numbers in the equivalent ratios: $\frac{3}{5}, \frac{12}{x}, \frac{y}{75}$.

15. Write an equation that models the situation and find its solution.

It's going to be Lindsay's birthday soon, and her friends Sandy, Jay, and Hakeem have contributed equal amounts of money to buy her a present. They have \$19.50 to spend between them. Determine how much each contributed.

16. Alice earns 1.5 times her normal hourly rate for each hour she works after 40 hours in a week. She worked 50 hours this week and earned \$660. What is her normal hourly rate?
17. Translate the statement into an equation. Then solve the equation.
The sum of 8 and 3 times a number is 23.
18. A rectangle has a length of $x + 4$ centimeters and a width of x centimeters. The perimeter of the rectangle is 28 centimeters. What is the value of x ?
19. The graph represents all points where the y -value is equal to 4. Write an equation for the graph.

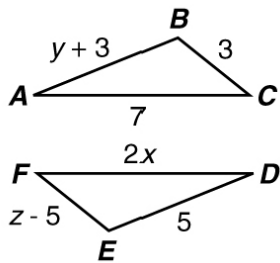


20. Graph the function $y = 2x - 1$.
21. A repair service charges \$60.00 to come to your home plus \$19.50 per hour. Find a function that describes the arithmetic sequence. Then find the total cost for a 7-hour job.
22. Solve the system $\begin{cases} -2x + 2y = 4 \\ x + y = 6 \end{cases}$ by graphing.
23. Use rates of change to determine whether the function is linear or nonlinear.

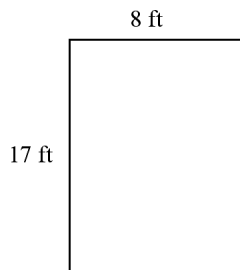
x	3	4	6	10
y	7	9	13	21

24. An air conditioning repair service call costs \$75 per hour plus a flat fee trip charge of \$25. If the situation can be represented by the function $r(h) = 75h + 25$, what do the variables represent and which is the dependent variable?
25. A bacteria population doubles every 24 minutes. If this situation was represented by a function, what are the variables and which variable depends on the other?
26. Simplify the expression $\sqrt[4]{256z^{16}}$. Assume that all variables are positive.
27. Simplify the expression $\sqrt{16r^4s^5}$. All variables represent nonnegative numbers.
28. What is the product of $\frac{9}{19}$ and $\frac{7}{15}$?

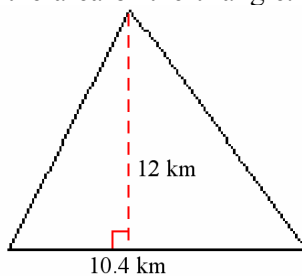
29. $\triangle ABC \cong \triangle DEF$. Find z .



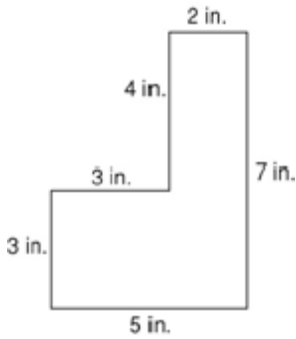
30. Find the area of the rectangle.



31. Find the area of the triangle.

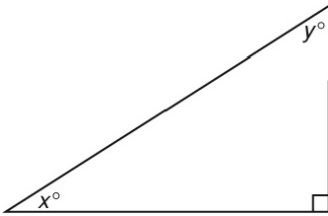


32. What is the area of the polygon?

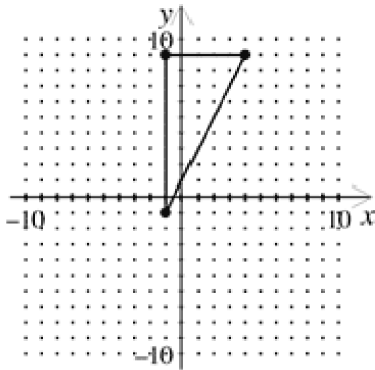


33. In $\triangle ABC$, $\angle A$ is 10° more than $\angle B$ and $\angle C$ is 30° more than $\angle B$. What is $m\angle A$ to the nearest tenth of a degree?

34. If $x = 35$, what is the value of y ?

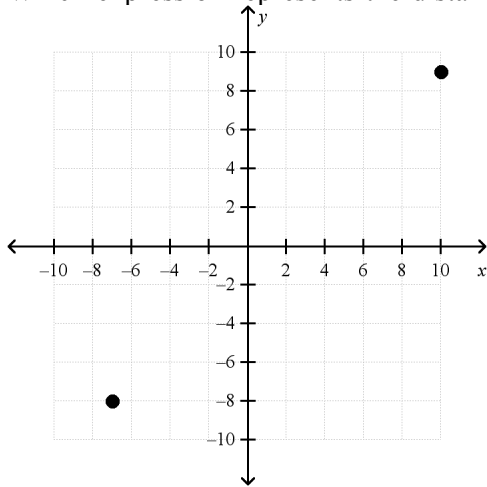


35. Find the length of the hypotenuse of the triangle.



36. Find the distance between the points $(-1, 6)$ and $(2, -3)$ to the nearest tenth.

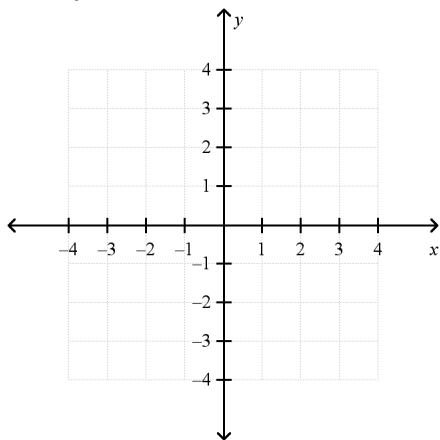
37. Which expression represents the distance between the points graphed below?



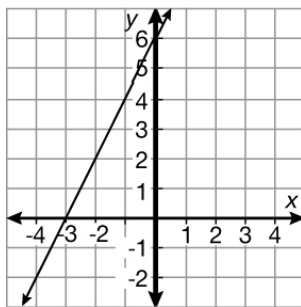
38. Raymond draws a line through the points $(4, -1)$ and $(-7, -1)$. What is the slope of this line?

39. Find the slope and y-intercept of the graph of the equation. Then graph the equation.

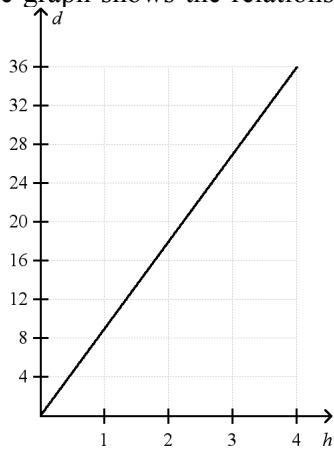
$$y = -\frac{1}{9}x + 1$$



40. What is the slope of the line graphed below?

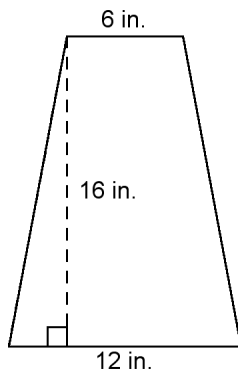


41. The graph shows the relationship between Daisy's income d and the number of hours she works h .

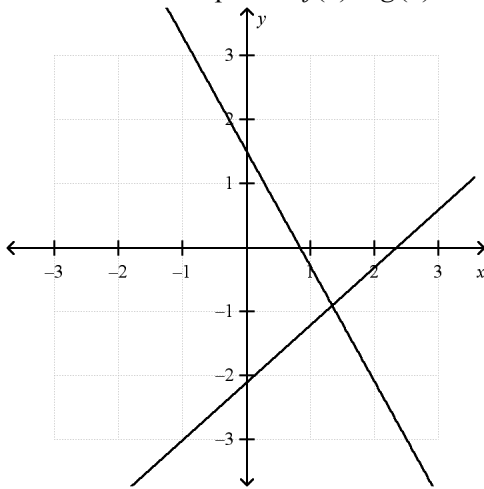


Kinzie earns \$75 in 5 hours. Who gets paid more per hour? By how much?

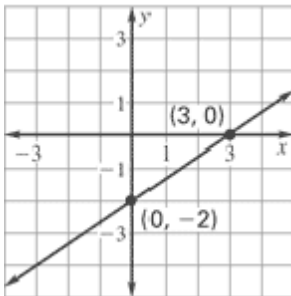
42. Point E is between points D and F . If $DE = x - 4$, $EF = 2x + 5$, and $DF = 4x - 8$, find x .
43. Y is the midpoint of \overline{XZ} . If X is $(-3, 5)$ and Z is $(2, -1)$, what are the coordinates of Y .
44. Find the length of \overline{MN} if M is $(-3, 5)$ and N is $(-6, 1)$. Use $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$.
45. What is the area of this shape?



46. Lila graphed two linear functions, $y=f(x)$ and $y=g(x)$, as shown. Use the graph to find the approximate solution to the equation $f(x) = g(x)$.



47. Which point, $\left(\frac{5}{2}, -3\right)$ or $\left(-\frac{3}{2}, 6\right)$, is on the graph of $2x - \frac{2}{3}y = -7$?
48. Make a table of values for the equation $y = 2x + 5$ using x -values of 1, 2, 3, 4, and 5. Then graph the equation.
49. Write an equation of the line.



50. Which expression is equivalent to $8g + 2 + 4g - 2 - 2g$?