

Solve the equation.

1.  $|2 - 8z| = 8$

$$z = -\frac{3}{4} \text{ and } \frac{5}{4}$$

Solve the equation. Show your work.

2.  $y + 17 = 13$

$$y = -4$$

3. You buy 3 notebooks and a backpack. The cost of the backpack is \$24.00. You pay 6% in sales tax on your purchase, and your total bill is \$36.57. How much does each notebook cost?

$$\$3.50$$

Solve the formula for the indicated variable.

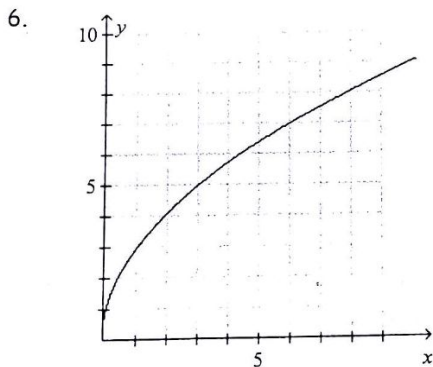
4. Area of a circle:  $A = \pi r^2$  ; Solve for  $r$ .

$$r = \sqrt{\frac{A}{\pi}}$$

5. You need to ride an average of at least 35 miles per day for five consecutive days to qualify for a cross-country biking expedition. The distances (in miles) of your rides in the first four days are 45, 33, 27, and 26. What distances on the fifth day will allow you to qualify for the competition?

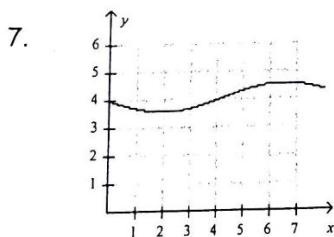
$$m \geq 44$$

Determine whether the graph represents a function. Explain.



Yes, passes vertical line test.

Does the graph represent a *linear* or *nonlinear* function? Explain.



nonlinear - not straight

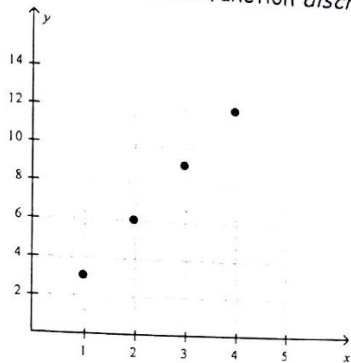
Does the table represent a *linear* or *nonlinear* function? Explain.

8.

x	-3	2	7	12
y	-16	4	24	44

linear

9. Is the domain of the function *discrete* or *continuous*? Explain.



Discrete

Evaluate the function when  $x = -3, 0,$  and  $1.$

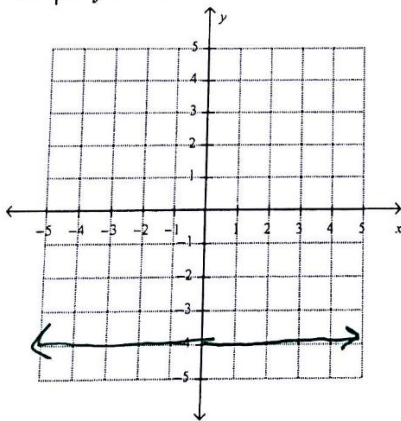
10.  $g(x) = -4x$

$$g(-3) = 12$$

$$g(0) = 0$$

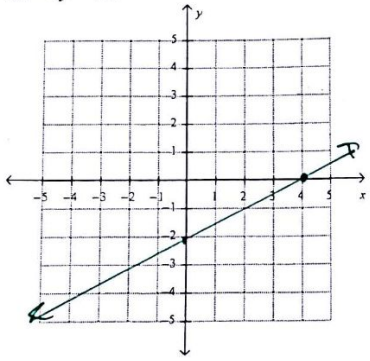
$$g(1) = -4$$

11. Graph  $y = -4.$

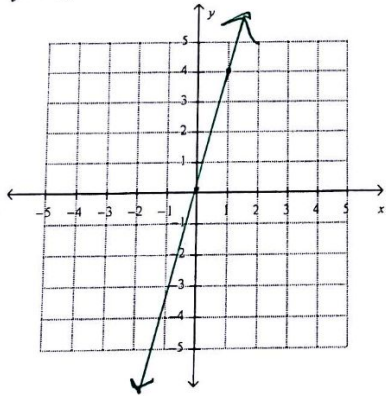


Graph the linear equation. Identify the  $x$ -intercept.

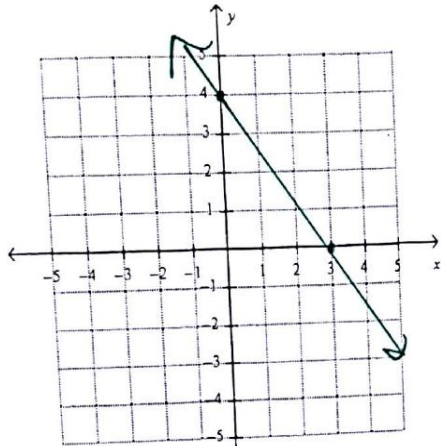
12.  $3x - 6y = 12$



13.  $y = 4x$

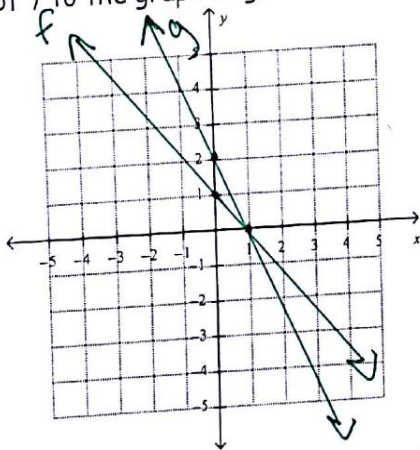


14. A linear function  $f$  models the relationship in which the dependent variable decreases 4 units for every 3 units the independent variable increases. Graph  $f$  when  $f(0) = 4$ . Identify the slope,  $y$ -intercept, and  $x$ -intercept of the graph.



Slope:  $-\frac{4}{3}$   
 $y$ -intercept: 4  
 $x$ -intercept: 3

15. Let  $f(x) = -x + 1$ . Graph  $g(x) = 2f(x)$ . Use the graph to describe the transformation from the graph of  $f$  to the graph of  $g$ .



16. Which two options below represent the same function?

a. 

x	-2	-1	0	1	2
y	4	4.5	5	5.5	6

b. 

x	-2	-1	0	1	2
y	3	4	5	6	7

c.  $y = \frac{1}{2}x + 5$

d.  $x + 2y = 10$

A & C