

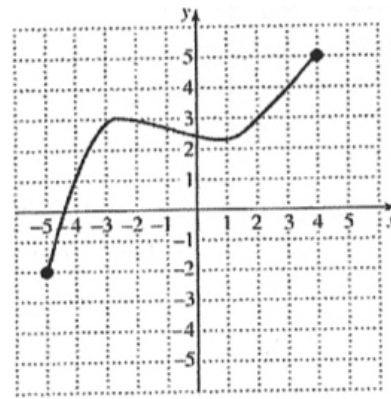
## Chapter 2, Practice Problems

Determine whether the ordered pair is a solution of the given equation.

1.  $(0,2), 7x + 8y = 16$                       2.  $(2,-3), -4p + 3q = 2$

Graph:

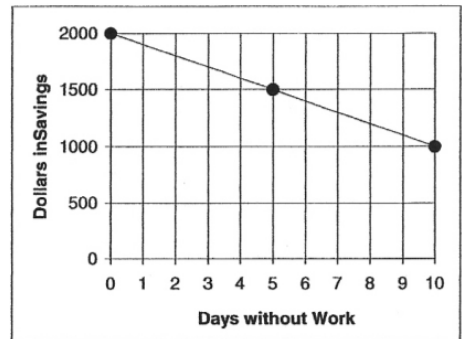
3.  $y = -2x + 3$                                   4.  $y = -x^2 + 2$   
 5.  $f(x) = 4$                                       6.  $8 - x = 14$



7. For the following graph of  $f$ , determine  
 (a)  $f(2)$ ; (b) the domain of  $f$ ;  
 (c) any  $x$  value for which  $f(x) = 1$ ; and  
 (d) the range of  $f$ . [see graph on right]

8. The function  $S(t) = 308.7 - 4.1t$  can be used to estimate the total Bahamian sales of snow-tires, in thousands of dollars,  $t$  years after 1990. Predict the total Bahamian sales of snow-tires in 2003. [Hint – Don't use  $t = 2003$ . Make sure you understand why  $t$  is NOT 2003.]

9. Cassandra spent \$85 on gasoline in July and decreased her monthly spending on gas to \$65 in December. Use a graph of points to estimate her spending on gasoline in October.



Find the slope and the y-intercept.

10.  $f(x) = \frac{2}{3}x - 14$                                   11.  $-7y - 4x = 21$   
 12.  $(-3,0)$  and  $(3,5)$                               13.  $(-1.7,2.3)$  and  $(-2.8,4.5)$

14. Find the rate of change for the graph on the right. Use appropriate units.

15. Find a linear function whose graph has slope  $-2$  and y-intercept  $(0, -5)$ .

16. Graph using intercepts:  $-5x + 2y = 12$ .

17. Which of these are linear equations?              (a)  $3x - 4 = 0$                                   (b)  $2x - 5y = 11$                                   (c)  $4x - 7y^2 = 3$

18. Find an equation of the line, in point-slope form, with slope 12 and containing the point  $(4,5)$ .

19. Using function notation, write a slope-intercept equation for the line containing  $(1,3)$  and  $(3,7)$ .

Find an equation of the line....

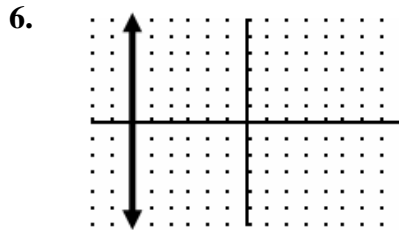
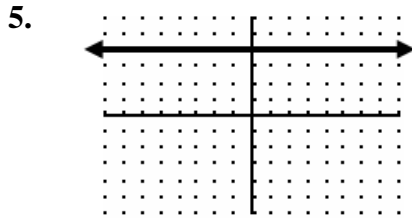
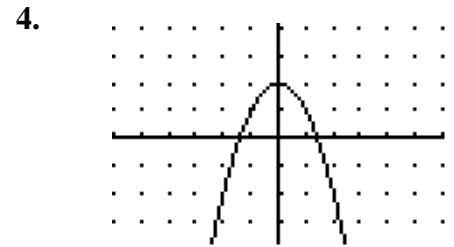
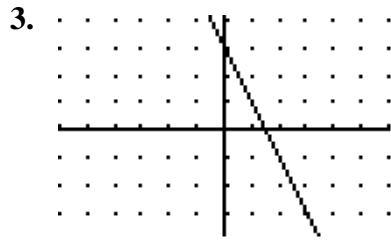
20. containing  $(4,3)$  and parallel to the line  $7x - 3y = 14$ .

21. containing  $(4,3)$  and perpendicular to the line  $7x - 3y = 14$ .

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### Answers

1. Yes      2. No



7. a)  $f(2) = 3$ ;      b)  $D_f = \{x \mid -5 \leq x \leq 4\}$ ;      c)  $x = -4$ ;      d)  $R_f = \{y \mid -2 \leq y \leq 5\}$

8. \$255.4 thousand

9. \$73

10.  $\frac{2}{3}$ ; (0, -14)

11.  $-\frac{4}{7}$ ; (0, -3)

12.  $m = \frac{5}{6}$ , (0, 2.5)

13.  $m = -2$ , (0, -1.1)

14. -100 dollars/day

15.  $f(x) = -2x - 5$



17. a, b

18.  $y - 5 = 12(x - 4)$

19.  $f(x) = 2x + 1$

20.  $y = \frac{7}{3}x - \frac{19}{3}$

21.  $y = -\frac{3}{7}x + \frac{33}{7}$