Chapter 2, Test Form D **Name:**

1. Evaluate $f(-3)$ if $f(x) = -x^2 + 2$. 1. _____

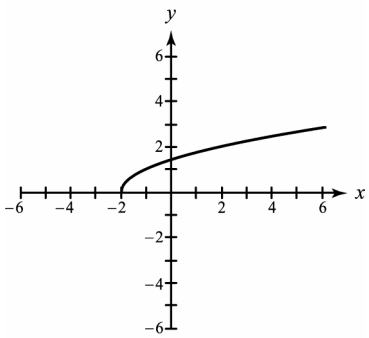
   (a) 11 (b) -7 (c) -11 (d) -1

2. Evaluate $f(2)$ if $f(x) = -5x + 6$. 2. _____

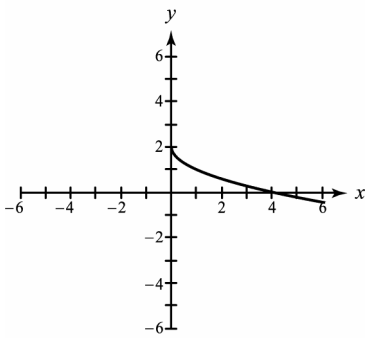
   (a) -4 (b) -16 (c) 16 (d) 4

3. Sketch a graph of $f(x) = \sqrt{x} - 2$. 3. _____

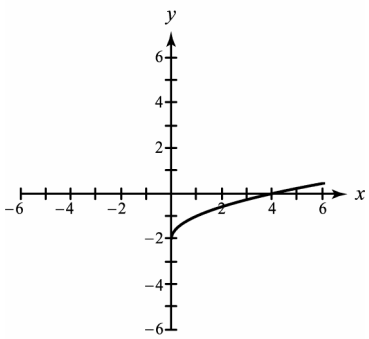
(a)



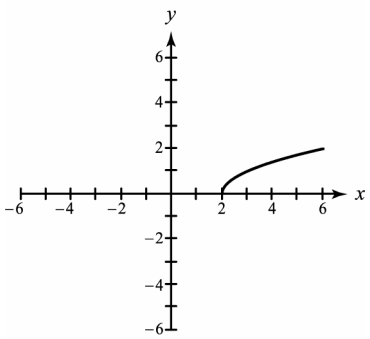
(b)



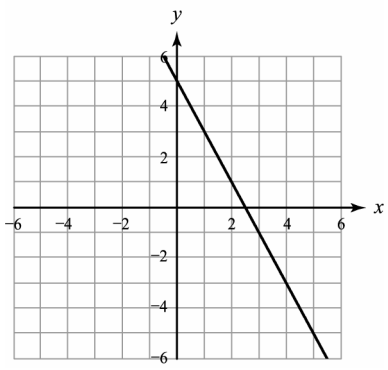
(c)



(d)

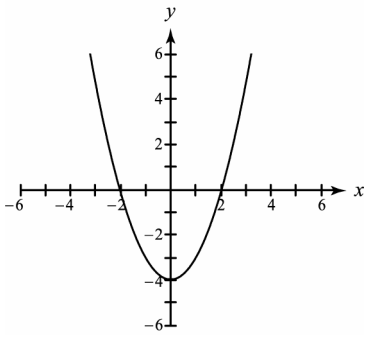


4. Use the graph of f to evaluate $f(1)$. 4. _____



(a) 2 (b) 7 (c) 1 (d) 3

5. Determine the range of f. 5. _____



(a) $-4 \le y \le 2$ (b) $-2 \le y \le 2$ (c) $y \ge -4$ (d) all real numbers

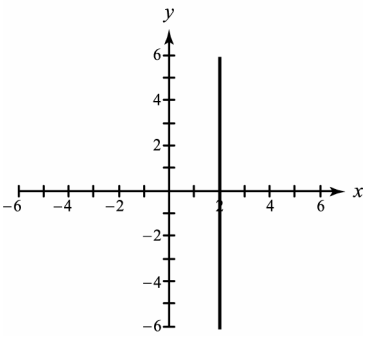
6. A function f is represented verbally by "Cube the input x and then add 4." 6. _____
Give a symbolic representation of f.

(a) $f(x) = \sqrt[3]{x+4}$ (b) $f(x) = x^3 + 4$

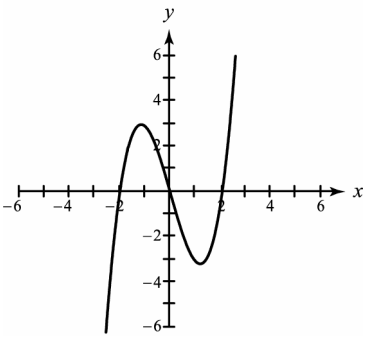
(c) $f(x) = x^3 + 64$ (d) $f(x) = (x+4)^3$

7. Determine which graph represents a function. 7. _____

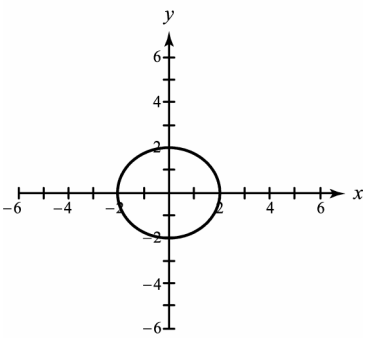
(a)



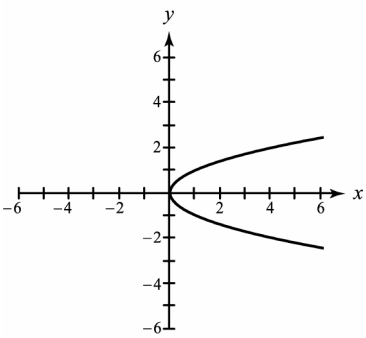
(b)



(c)



(d)



8. Find the domain of $f(x) = -\dfrac{2x}{x+4}$. 8. _____

(a) $x \neq -4$ (b) $x \leq 4$ (c) $x \neq 0$ (d) $x \geq 0$

9. Find the slope and y-intercept of the graph of the linear equation $y = 3x - \frac{5}{2}$. 9

(a) $m = 3; \left(\frac{5}{6}, 0\right)$ (b) $m = -\frac{1}{3}; \left(-\frac{5}{2}, 0\right)$

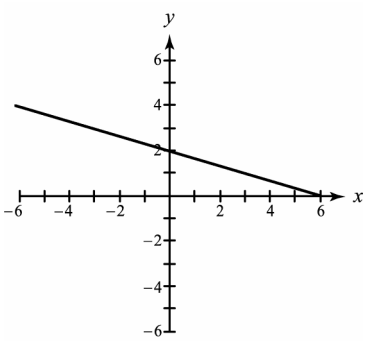
(c) $m = -\frac{1}{3}; \left(0, \frac{5}{6}\right)$ (d) $m = 3; \left(0, -\frac{5}{2}\right)$

10. Find the slope of the line passing through $\left(\frac{3}{2}, 2\right)$ and $\left(1, \frac{1}{2}\right)$. 10. _____

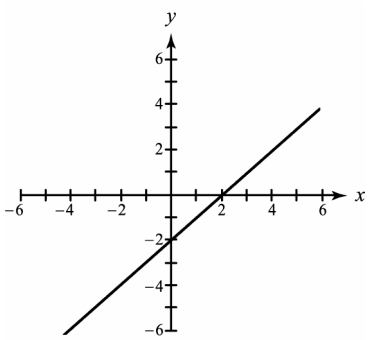
(a) 1 (b) 3 (c) $\frac{1}{3}$ (d) -1

11. Determine which line has a slope of $\frac{1}{3}$. 11. _____

(a)



(b)



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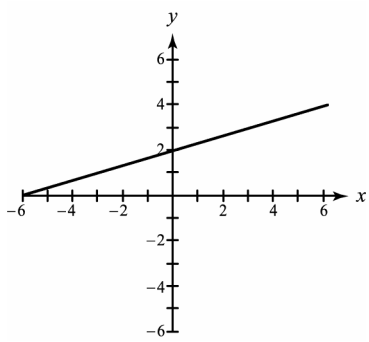

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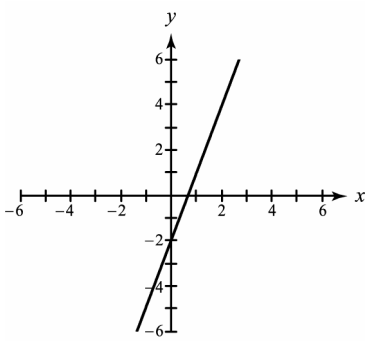


12. Write the slope-intercept form of the line with x-intercept 3 and y-intercept $\frac{3}{4}$. 12. _____

(a) $y = -\frac{1}{4}x + 3$ (b) $y = 4x - 12$ (c) $y = -\frac{1}{4}x + \frac{3}{4}$ (d) $y = 4x + 3$

13. Find the slope-intercept form of the line passing through $\left(\frac{1}{2}, -2\right)$ and $(0, -3)$. 13. _____

(a) $y = \frac{1}{2}x + \frac{5}{4}$ (b) $y = \frac{1}{2}x - 3$ (c) $y = 2x - 3$ (d) $y = 2x + 1$

14. Let f be a linear function. Find the slope of the graph of f. 14. _____

x	−2	0	1	2	4
y	8	4	2	0	−4

(a) −2 (b) 4 (c) −4 (d) 2

15. Let f be a linear function. Find the x- and y-intercepts of the graph of f. 15. _____

x	-4	-2	-1	0	1
y	-6	0	3	6	9

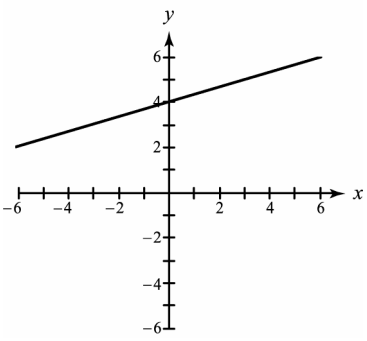
(a) $x\text{-int}:(0,6)$ $y\text{-int}:(-2,0)$ (b) $x\text{-int}:(0,-2)$ $y\text{-int}:(6,0)$ (c) $x\text{-int}:(6,0)$ $y\text{-int}:(0,-2)$ (d) $x\text{-int}:(-2,0)$ $y\text{-int}:(0,6)$

16. Give the slope-intercept form of a line perpendicular to $y=\frac{2}{3}x+7$, passing through $(4,-3)$. 16. _____

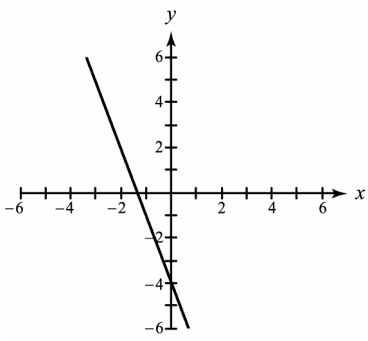
(a) $y=-\frac{3}{2}x+3$ (b) $y=\frac{2}{3}x-\frac{17}{3}$ (c) $y=\frac{2}{3}x-7$ (d) $y=-\frac{3}{2}x-3$

17. Find the graph of the linear equation $y=-3x+4$. 17. _____

(a)



(b)



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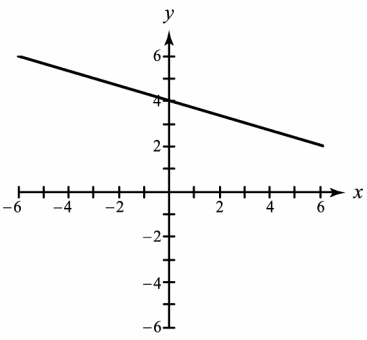

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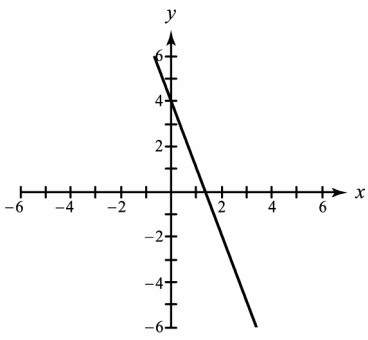

18. Find the equation of a line that passes through the origin and is perpendicular to the line given in #17. 18. _____

(a) $y=-3x$ (b) $y=\frac{1}{3}x$ (c) $x=-3y+4$ (d) $y=\frac{1}{3}x+4$

19. Find an equation of the vertical line passing through the point $\left(\frac{3}{2}, -\frac{1}{2}\right)$. 19. _____

(a) $\frac{3}{2}x - \frac{1}{2}y = 0$ (b) $x = \frac{3}{2}$ (c) $y = -\frac{1}{2}$ (d) $y = \frac{3}{2}x - \frac{1}{2}$

20. Find an equation of the horizontal line passing through the point $\left(\frac{1}{2}, -\frac{3}{4}\right)$. 20. _____

(a) $y = -\frac{3}{4}$ (b) $y = \frac{1}{2}x - \frac{3}{4}$ (c) $x = \frac{1}{2}$ (d) $\frac{1}{2}x - \frac{3}{4}y = 0$