

Algebra 2 (basic) ~ 2.3 Intro to Functions (identification, domain, range, notation, vertical line test)  
(additional)

1.  $\{(2, -2), (1, -1), (1, 1), (2, 2)\}$  \_\_\_\_\_

domain: \_\_\_\_\_ range: \_\_\_\_\_

2.  $\{(0, 0), (1, 1), (2, 2), (3, 3)\}$  \_\_\_\_\_

domain: \_\_\_\_\_ range: \_\_\_\_\_

3. 

x	1	2	3	4
y	-4	-3	-2	-1

 \_\_\_\_\_

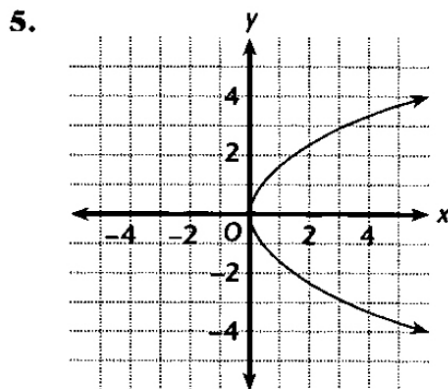
domain: \_\_\_\_\_ range: \_\_\_\_\_

4. 

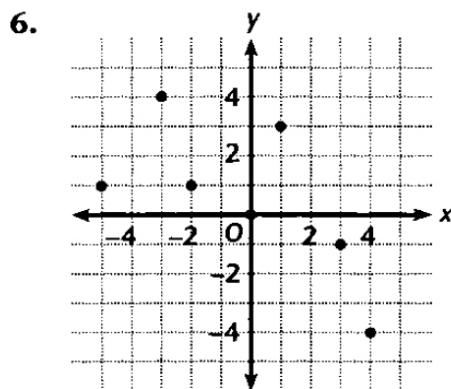
x	4	4	9	9
y	2	-2	3	-3

 \_\_\_\_\_

domain: \_\_\_\_\_ range: \_\_\_\_\_



domain: \_\_\_\_\_ range: \_\_\_\_\_



domain: \_\_\_\_\_ range: \_\_\_\_\_

Let  $f(x) = 5 - \frac{2x}{3}$  and  $g(x) = \frac{1}{2}x^2 + 3x$ . Evaluate each function.

7.  $f(6)$  \_\_\_\_\_

8.  $f(0)$  \_\_\_\_\_

9.  $f\left(\frac{1}{2}\right)$  \_\_\_\_\_

10.  $g(1)$  \_\_\_\_\_

11.  $g(-2)$  \_\_\_\_\_

12.  $g\left(\frac{1}{2}\right)$  \_\_\_\_\_

13.  $f(1) + g(0)$  \_\_\_\_\_

14.  $g(4) - f(5)$  \_\_\_\_\_

15.  $f(0) \cdot g(0)$  \_\_\_\_\_

16.  $g(-6) \cdot f(-6)$  \_\_\_\_\_

Write each situation in function notation.

17. Driving at 60 miles per hour, the distance you travel depends on the number of hours spent driving. \_\_\_\_\_

18. The charge for electric service is \$10.00 plus \$0.60 for each kilowatt-hour of electricity that you use each month. \_\_\_\_\_

19. The surface area of a cube is 6 times the square of the length of one edge. \_\_\_\_\_

20. The volume of a sphere is  $\frac{4\pi}{3}$  times the radius cubed. \_\_\_\_\_

SOLUTIONS

**Lesson 2.3**

1. no; domain:  $\{1, 2\}$ ; range:  $\{-2, -1, 1, 2\}$
2. yes; domain:  $\{0, 1, 2, 3\}$ ; range:  $\{0, 1, 2, 3\}$
3. yes; domain:  $\{1, 2, 3, 4\}$ ;  
range:  $\{-4, -3, -2, -1\}$
4. no; domain:  $\{4, 9\}$ ; range:  $\{-3, -2, 2, 3\}$
5. no; domain:  $x \geq 0$ ; range: all real numbers
6. yes; domain:  $\{-5, -3, -2, 0, 1, 3, 4\}$ ;  
range:  $\{-4, -1, 0, 1, 3, 4\}$
7. 1    8. 5    9.  $4\frac{2}{3}$     10.  $3\frac{1}{2}$     11. -4
12.  $1\frac{5}{8}$     13.  $4\frac{1}{3}$     14.  $18\frac{1}{3}$     15. 0    16. 9
17.  $f(t) = 60t$
18.  $f(h) = 10 + 0.6h$
19.  $f(e) = 6e^2$
20.  $f(r) = \frac{4\pi}{3} r^3$