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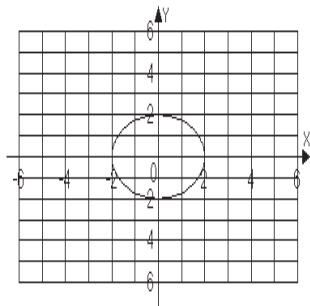
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**Chapter 8**  
**Form A**

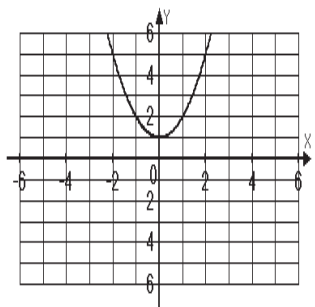
1. For the set  $\{2, 1\}, (5, 7), \text{ and } (7, 8)\}$   
(a) determine whether the relation is a function and give the (b) domain and (c) range of the relation.
- 1a. \_\_\_\_\_  
b. \_\_\_\_\_  
c. \_\_\_\_\_

For problems 2 – 5, find the indicated function values.

2.  $f(x) = 3x + 1$  Find  $f(-2)$ . 2. \_\_\_\_\_
3.  $g(x) = 4x - 8$  Find  $g(5)$ . 3. \_\_\_\_\_
4.  $f(x) = 2x^2 - 4x + 1$  Find  $f(3)$ . 4. \_\_\_\_\_
5.  $g(x) = x^2 - x$  Find  $g(-2)$ . 5. \_\_\_\_\_
6. Does the graph represent a function? 6. \_\_\_\_\_



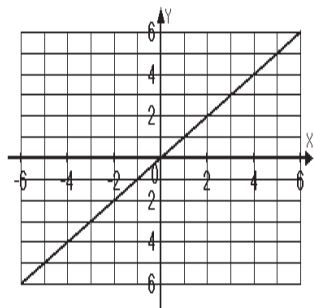
7. Does the graph represent a function? 7. \_\_\_\_\_



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Use the graph below to solve problems 8 – 9.



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

9. Find  $f(4)$  9. \_\_\_\_\_

10. Find the domain of  $f(x) = 3x + 4$ . 10. \_\_\_\_\_

11. Find the domain of  $g(x) = \frac{x-3}{x+5}$ . 11. \_\_\_\_\_

Let  $f(x) = x^2 + 4x - 2$  and  $g(x) = 2x + 1$ . Find:

12.  $g(a+4)$  12. \_\_\_\_\_

13.  $f(-3)$  13. \_\_\_\_\_

14.  $(f+g)(0)$  14. \_\_\_\_\_

15.  $(fg)(-2)$  15. \_\_\_\_\_

16. The domain of  $\frac{f}{g}$ . 16. \_\_\_\_\_

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Find the composition.

17. If  $f(x) = x^2 - 1$  and  $g(x) = x + 3$ , find  $(f \circ g)(2)$ . 17. \_\_\_\_\_

18. If  $f(x) = 3x - 2$  and  $g(x) = 2x + 4$ , find  $(g \circ f)(x)$ . 18. \_\_\_\_\_

Determine whether the pair of  $f$  and  $g$  are inverses of each other.

19.  $f(x) = 5x$  and  $g(x) = \frac{x}{5}$ . 19. \_\_\_\_\_

20.  $f(x) = 2x - 4$  and  $g(x) = \frac{x + 2}{4}$ . 20. \_\_\_\_\_

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**Chapter 9**  
**Form A**

For problems 1 – 2, let  $A = \{a, b, c, d, e\}$  and  $B = \{a, e, i, o, u\}$ .

1.  $A \cap B$

1. \_\_\_\_\_

2.  $A \cup B$

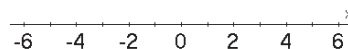
2. \_\_\_\_\_

For problems 3 – 7, solve each linear inequality. Express the solution in a) interval notation, and (b) graph the interval on a number line.

3.  $4x + 7 > 3(x + 2)$

3a. \_\_\_\_\_

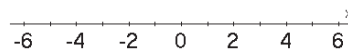
b.



4.  $4 - 2(x - 3) \geq 4(2x - 3) + 2$

4a. \_\_\_\_\_

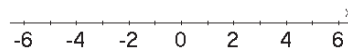
b.



5.  $x + 3 \leq 4$  and  $-7x < 14$

5a. \_\_\_\_\_

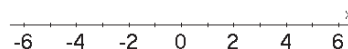
b.



6.  $9x - 4 \geq 14$  or  $4(2x - 3) + 2$

6a. \_\_\_\_\_

b.

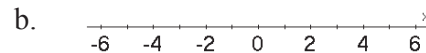


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7.  $-8x + 12 \leq 20$  and  $-4(x - 2) \geq 20$

7a. \_\_\_\_\_



For problems 8 – 10, solve the absolute value inequality. Express the solution set in interval notation.

8.  $|4x - 3| + 1 \leq 6$

8a. \_\_\_\_\_

b. \_\_\_\_\_

9.  $\left| \frac{2x + 1}{3} \right| > 4$

9a. \_\_\_\_\_

b. \_\_\_\_\_

10.  $|5x - 3| - 2 < -10$

10a. \_\_\_\_\_

b. \_\_\_\_\_

For problems 11 – 12, solve the absolute value equation.

11.  $|2x - 1| + 4 = 7$

11a. \_\_\_\_\_

b. \_\_\_\_\_

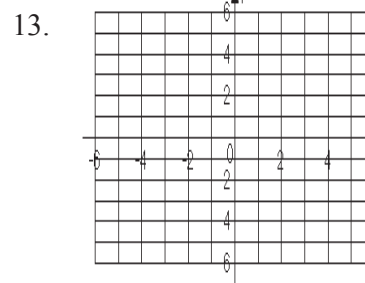
12.  $|x + 2| = |3x - 4|$

12a. \_\_\_\_\_

b. \_\_\_\_\_

For problems 13 – 14, graph each inequality in a rectangular coordinate system.

13.  $4x - 3y \leq 12$

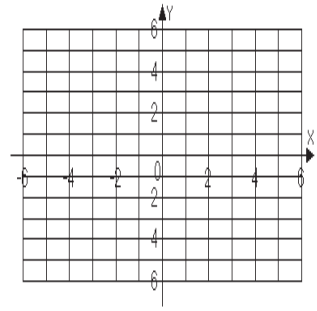


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14.  $y > -2x - 3$

14.



## Chapter 8 Answers

### Form A

- 1a. Function b.  $\{2, 5, 7\}$  c.  $\{1, 7, 8\}$  2.  $-5$  3.  $12$  4.  $7$  5.  $6$  6. Not a function  
7. A function 8.  $0$  9.  $4$  10.  $(-\infty, \infty)$  11.  $(-\infty, -5)$  or  $(-5, \infty)$  12.  $2a+9$  13.  $-5$   
14.  $-1$  15.  $18$  16.  $(-\infty, -\frac{1}{2})$  or  $(-\frac{1}{2}, \infty)$  17.  $24$  18.  $6x$  19. Inverses  
20. Not inverses

## Chapter 9 Answers

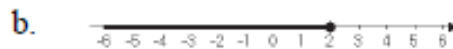
### Form A

1.  $\{a, e\}$     2.  $\{a, b, c, d, e, i, o, u\}$

3a.  $(-1, \infty)$



4a.  $(-\infty, 2]$



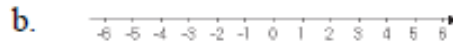
5a.  $(-2, 1]$



6a.  $(-\infty, 1] \cup [2, \infty)$



7a.  $\emptyset$



8.  $\left[-\frac{1}{2}, 2\right]$     9.  $\left(-\infty, -\frac{13}{2}\right) \cup \left(\frac{11}{2}, \infty\right)$     10.  $(-\infty, \infty)$     11.  $\{-1, 2\}$     12.  $\left\{\frac{1}{2}, 3\right\}$

