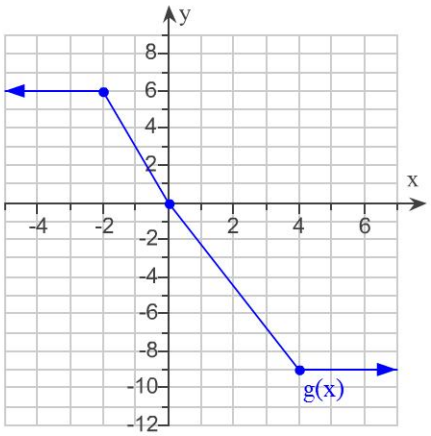
Student: _____ **Date:** _____ **Time:** _____	**Instructor:** shannon gracey **Course:** MATH 64 ONLINE/FALL 2014 **Book:** Blitzer: Introductory & Intermediate Algebra for College Students, 4e	**Assignment:** Exam 1 Practice/Ch. 8-9

1. Use the graph of g to solve.

Find $g(-10)$.

$g(-10) =$ ☐



ID: 8.2.17

2. Let $f(x) = 2 - (x + 1) + 2x$. Find all values of x for which $f(x)$ is at least 3.

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

○A. The solution set in interval notation is ☐.
(Simplify your answer. Use integers or fractions for any numbers in the expression. Type your answer in interval notation.)

○B. The solution set is ∅.

ID: 9.1.31

Student: _____ **Date:** _____ **Time:** _____	**Instructor:** shannon gracey **Course:** MATH 64 ONLINE/FALL 2014 **Book:** Blitzer: Introductory & Intermediate Algebra for College Students, 4e	**Assignment:** Exam 1 Practice/Ch. 8-9

3. Express the interval in set-builder notation and graph the interval on a number line.

[6,9]

The solution set in set-builder notation is $\{x \mid \square\}$.
(Type an inequality or a compound inequality.)

Choose the correct graph below.

A.

B.

C.

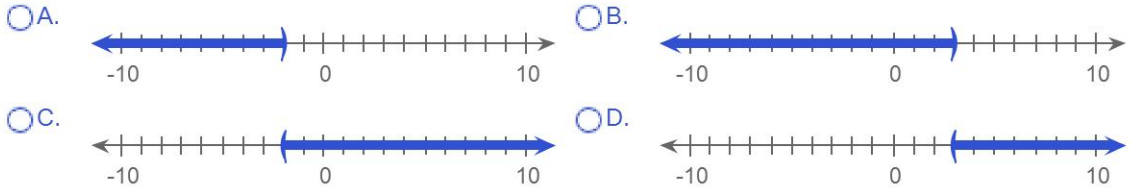
D.

ID: 8.2.25

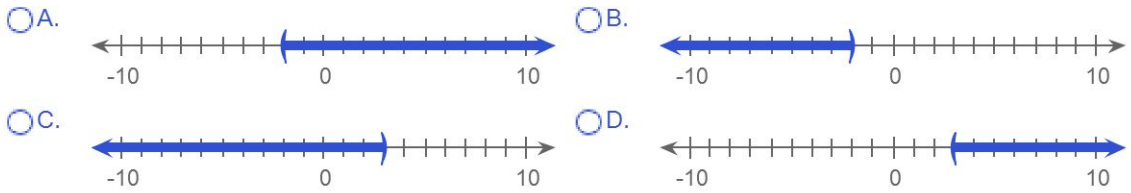
4. Solve each compound inequality. Use graphs to show the solution set to each of the two given inequalities, as well as a third graph that shows the solution set of the compound inequality. Express the solution set in interval notation.

$-4x + 3 > 11$ or $-2x + 18 > 4x$

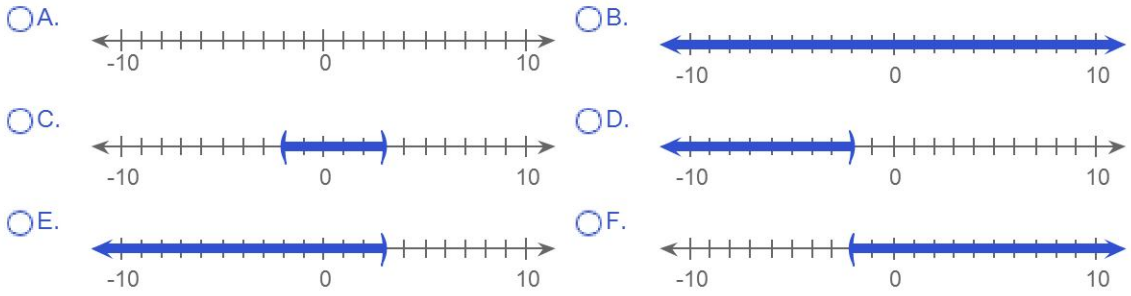
What is the correct graph of $-4x + 3 > 11$?



What is the correct graph of $-2x + 18 > 4x$?



What is the correct graph of the compound inequality $-4x + 3 > 11$ or $-2x + 18 > 4x$?



Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution set in interval notation is ☐.

B. The solution is the empty set.

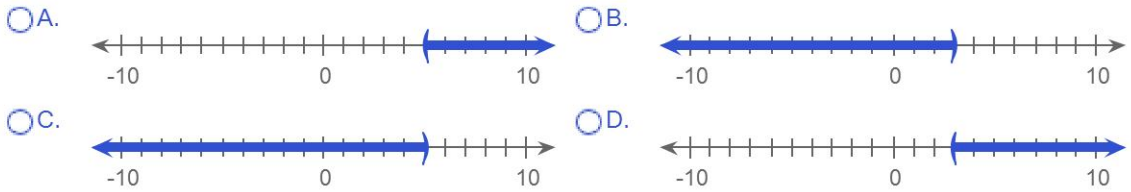
4. ID: 9.2.53

(cont.)

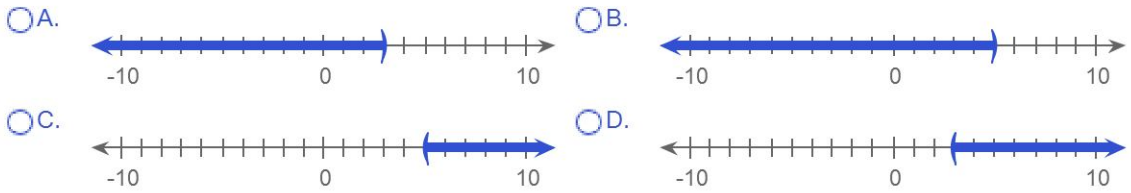
5. Solve the compound inequality. Use graphs to show the solution set to each of the two given inequalities, as well as a third graph that shows the solution set of the compound inequality. Except for the empty set, express the solution set in interval notation.

$2x > 6x - 20$ and $7x > 4x + 9$

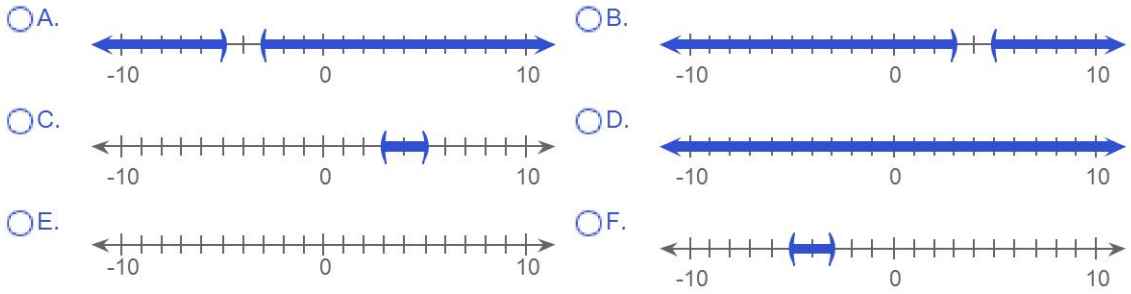
Graph the solution set of $2x > 6x - 20$. Choose the correct graph below.



Graph the solution set of $7x > 4x + 9$. Choose the correct graph below.



Graph the solution set of the compound inequality $2x > 6x - 20$ and $7x > 4x + 9$. Choose the correct graph below.



Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution in interval notation is ☐.

B. The solution is the empty set.

5. (cont.)

ID: 9.2.19

6. Find the solution set for the equation.

$|2y - 15| = |9 - 2y|$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution set is { }.
(Simplify your answer. Use a comma to separate answers as needed.)

B. The solution set is all real numbers.

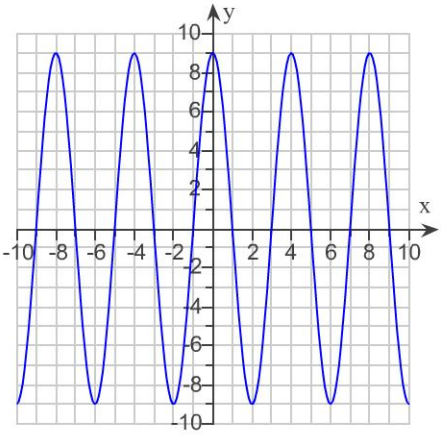
C. The solution is ∅.

ID: 9.3.35

7. Use the graph of f to find the indicated function value.

$f(-6)$

$f(-6) =$ ☐



ID: 8.2.9

Student: _____ **Date:** _____ **Time:** _____	**Instructor:** shannon gracey **Course:** MATH 64 ONLINE/FALL 2014 **Book:** Blitzer: Introductory & Intermediate Algebra for College Students, 4e	**Assignment:** Exam 1 Practice/Ch. 8-9

8. Solve and graph the solution set on a number line.

$|x - 3| < -12$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

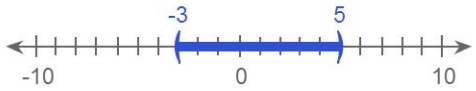
○ A. The solution set is ☐. (Type your answer in interval notation.)

○ B. The solution set is ∅.

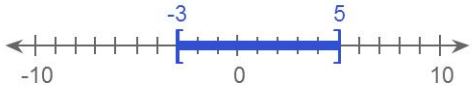
Choose the correct graph below.

○ A.

○ B.



○ C.



○ D. The graph contains no points.

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9. Solve and graph the solution set on a number line.

$2|2x - 9| + 4 > 18$

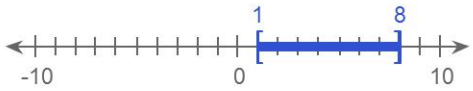
Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

○A. The solution set is ☐. (Type your answer in interval notation.)

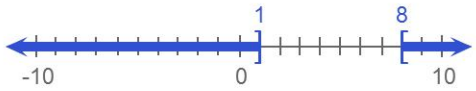
○B. The solution set is ∅.

Choose the correct graph below.

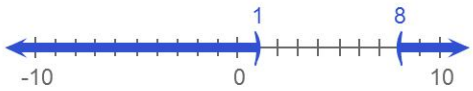
○A.



○B.



○C.



○D. The graph contains no points.

ID: 9.3.69

Student: _____ **Date:** _____ **Time:** _____	**Instructor:** shannon gracey **Course:** MATH 64 ONLINE/FALL 2014 **Book:** Blitzer: Introductory & Intermediate Algebra for College Students, 4e	**Assignment:** Exam 1 Practice/Ch. 8-9

10. Find the indicated function values for the function below.

$f(x) = x + 6$

a. $f(0)$ **b.** $f(6)$ **c.** $f(-9)$ **d.** $f(7a)$ **e.** $f(a+8)$

a. $f(0) =$ ☐ (Simplify your answer.)

b. $f(6) =$ ☐ (Simplify your answer.)

c. $f(-9) =$ ☐ (Simplify your answer.)

d. $f(7a) =$ ☐ (Simplify your answer.)

e. $f(a+8) =$ ☐ (Simplify your answer.)

ID: 8.1.9

11. For $f(x) = 6x$ and $g(x) = x + 8$ find the following.

a. $(f \circ g)(x)$ **b.** $(g \circ f)(x)$ **c.** $(f \circ g)(2)$

a. What is $(f \circ g)(x)$?

$(f \circ g)(x) =$ ☐ (Simplify your answer.)

b. What is $(g \circ f)(x)$?

$(g \circ f)(x) =$ ☐ (Simplify your answer.)

c. What is $(f \circ g)(2)$?

$(f \circ g)(2) =$ ☐ (Simplify your answer.)

ID: 8.4.1

12. Solve and graph the solution set on a number line.

$$|2(x-1)+12| \le 18$$

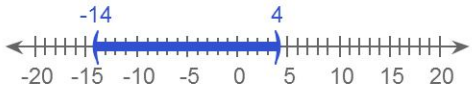
Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution set is ☐. (Type your answer in interval notation.)

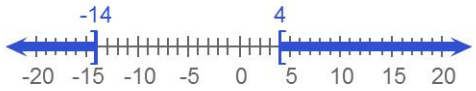
B. The solution set is ∅.

Choose the correct graph below.

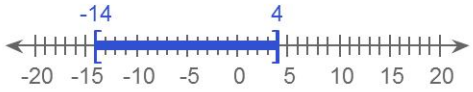
A.



B.



C.



D. The graph contains no points.

ID: 9.3.55

13. Find the solution set for the equation.

$$\left|\frac{4x-8}{6}\right| = 4$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution set is {☐}.
(Simplify your answer. Use a comma to separate answers as needed.)

B. The solution set is all real numbers.

C. The solution set is ∅.

ID: 9.3.7

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14. The function below is defined by two equations. The equation in the first row gives the output for negative numbers in the domain. The equation in the second row gives the output for non-negative numbers in the domain. Find the indicated function values.

$$f(x) = \begin{cases} 3x + 2 & \text{if } x < 0 \\ 8x + 6 & \text{if } x \geq 0 \end{cases}$$

a. $f(-2)$ **b.** $f(0)$

c. $f(8)$ **d.** $f(-100) + f(100)$

a. $f(-2) =$ ☐ (Simplify your answer.)

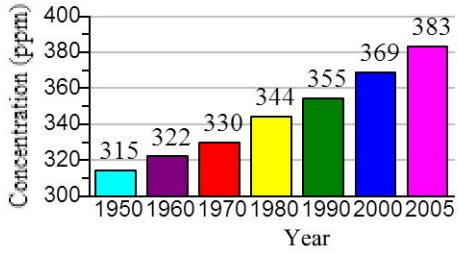
b. $f(0) =$ ☐ (Simplify your answer.)

c. $f(8) =$ ☐ (Simplify your answer.)

d. $f(-100) + f(100) =$ ☐ (Simplify your answer.)

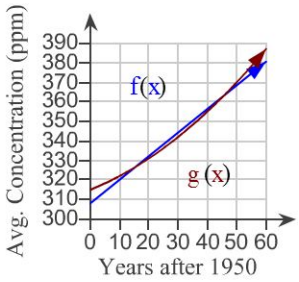
ID: 8.1.31

15. The bar graph shows the average atmospheric concentration of a pollutant in ppm for seven selected years.



The data can be modeled by the functions $f(x) = 1.21x + 308$ and $g(x) = 0.01x^2 + 0.6x + 315$, where f(x) and g(x) represent the average concentration of pollutant in ppm x years after 1950.

The graphs of f and g are shown to the right.



a. Find and interpret $f(40)$. Use the equation for f(x) to identify this information as a point on the graph.

☐ (Type an ordered pair.)

Interpret the meaning of the point on the graph of f.

The average concentration of pollutant in the year ☐ was ☐ parts per million.

b. Find and interpret $g(40)$. Use the equation for g(x) to identify this information as a point on the graph.

☐ (Type an ordered pair.)

Interpret the meaning of the point on the graph of g.

The average concentration of pollutant in the year ☐ was ☐ parts per million.

c. Which function, the linear or the quadratic, serves as a better description for the actual data shown by the bar graph when x = 40?

15. (cont.)

The quadratic / linear function

ID: 8.2.49

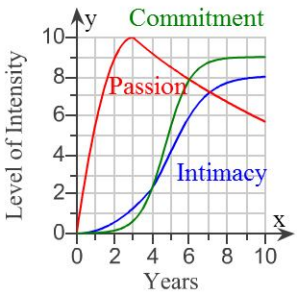
16. Evaluate $f^{-1}(8)$ without finding an equation for the function.

$f(x) = 2x + 4$

$f^{-1}(8) =$ ☐ (Simplify your answer.)

ID: 8.4.57

17. The graph to the right shows that the three components of love, namely passion, intimacy, and commitment, progress differently over time. Passion peaks early in a relationship and then declines. By contrast, intimacy and commitment build gradually. What is the relationship between intimacy and commitment on the interval $[4,6)$?



Choose the correct relationship between intimacy and commitment on the interval $[4,6)$ below.

A. intimacy < commitment

B. intimacy > commitment

C. intimacy ≥ commitment

D. intimacy ≤ commitment

ID: 9.1.47

18. Find the union of the sets.

$\{b, e, m, q, t\} \cup \varnothing$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

○ A. $\{b, e, m, q, t\} \cup \varnothing = \{\square\}$
(Use a comma to separate answers as needed.)

○ B. The solution is the empty set.

ID: 9.2.37

19. Solve and graph the solution set on a number line.

$|x + 2| \leq 4$

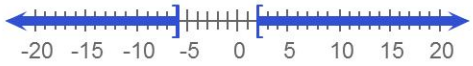
Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

○ A. The solution set is $\square$. (Type your answer in interval notation.)

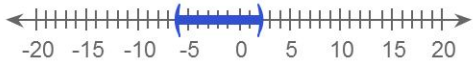
○ B. The solution set is $\varnothing$.

Choose the correct graph below.

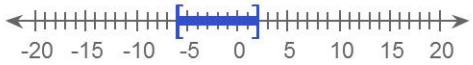
○ A.



○ B.



○ C.



○ D. The graph contains no points.

ID: 9.3.43

20. Find the solution set for the equation.

$$|3y + 9| + 9 = 7$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution set is { }. (Use a comma to separate answers as needed.)

B. The solution set is all real numbers.

C. The solution set is $\varnothing$.

ID: 9.3.23

21. Find $f(g(x))$ and $g(f(x))$ and determine whether the pair of functions f and g are inverses of each other.

$$f(x) = 9x \text{ and } g(x) = \frac{x}{9}$$

a. $f(g(x)) =$ ☐ (Simplify your answer.)

b. $g(f(x)) =$ ☐ (Simplify your answer.)

c. f and g are inverses of each other.

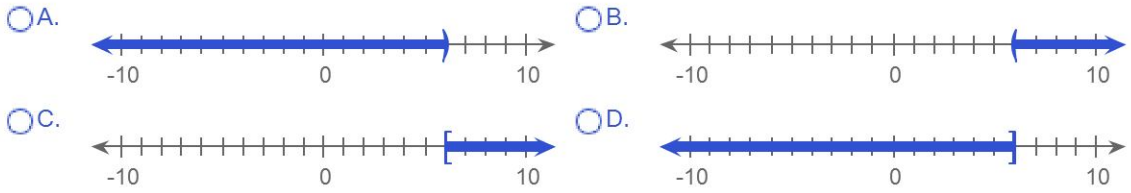
f and g are not inverses of each other.

ID: 8.4.15

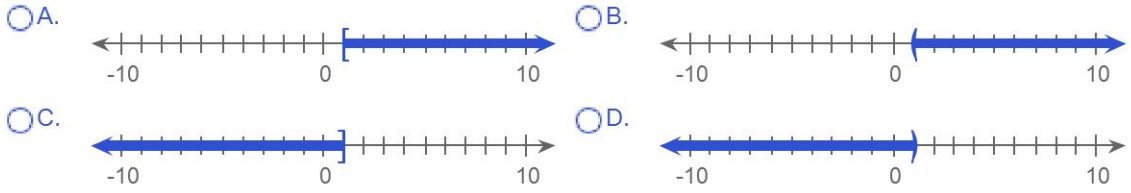
22. Solve the compound inequality. Use graphs to show the solution set to each of the two given inequalities, as well as a third graph that shows the solution set of the compound inequality. Except for the empty set, express the solution set in interval notation.

$x \leq 6$ and $x \leq 1$

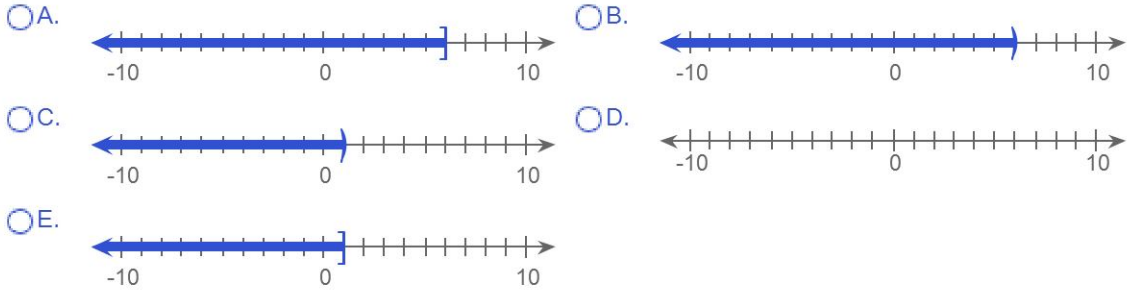
Graph the solution set of $x \leq 6$. Choose the correct graph below.



Graph the solution set of $x \leq 1$. Choose the correct graph below.



Graph the solution set of the compound inequality $x \leq 6$ and $x \leq 1$. Choose the correct graph below.



Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

22. (cont.)

○ A. The solution set in interval notation is ☐.

○ B. The solution is the empty set.

ID: 9.2.9

23. A company that manufactures small canoes has a fixed cost of $24,000. It costs $40 to produce each canoe. The selling price is $160 per canoe. (In solving this exercise, let x represent the number of canoes produced and sold.)

a. Write the cost function.

C(x) = ☐

b. Write the revenue function.

R(x) = ☐

c. Write the profit function.

P(x) = ☐

d. More than how many canoes must be produced and sold for the business to make money?

More than ☐ canoes must be produced and sold for the business to make money.

ID: 9.1.55

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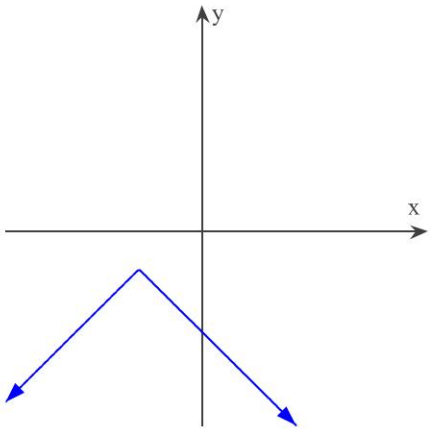
24. Use the vertical line test to determine if y is a function of x in the given graph.



Is y a function of x?

- ○ No
- ○ Yes

ID: 8.2.1

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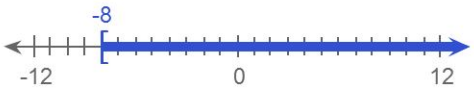
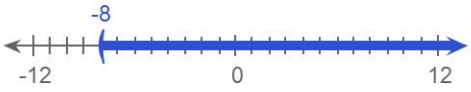
25. Solve the compound inequality. Use graphs to show the solution set to each of the two given inequalities, as well as a third graph that shows the solution set of the compound inequality.

$x \geq -8$ or $x < -9$

Which graph illustrates the inequality $x \geq -8$?

A. 

B. 

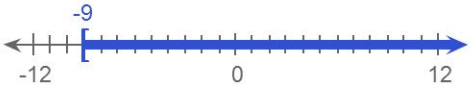
C. 

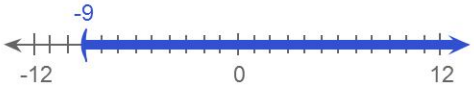
D. 

Which graph illustrates the inequality $x < -9$?

A. 

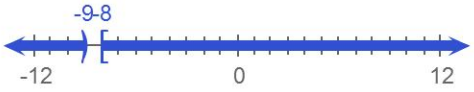
B. 

C. 

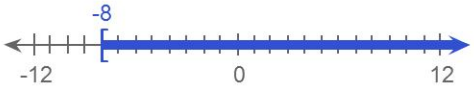
D. 

Which graph illustrates the compound inequality?

A. 

B. 

C. 

D. 

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution set in interval notation is ☐.

B. The solution is the empty set.

ID: 9.2.45

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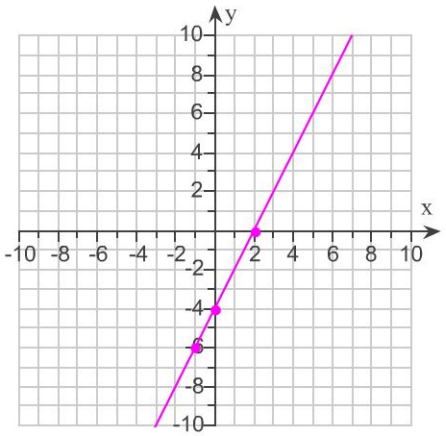
26. Use the graph of f to draw the graph of its inverse function.

Use the graphing tool to graph the function.

Click to enlarge graph



ID: 8.4.41

27. Solve the linear inequality. Other than ∅, graph the solution set on a number line.

$4x - 40 < -2(x + 2)$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

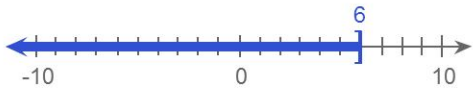
○ A. The solution set in interval notation is ☐.

○ B. The solution set is ∅.

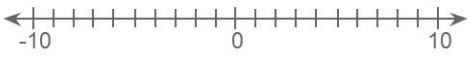
Graph the solution set on a number line. Choose the correct graph below.

○ A.

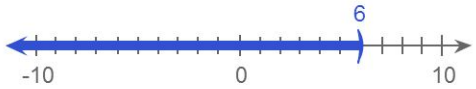
○ B.



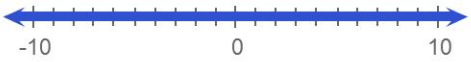
○ C.



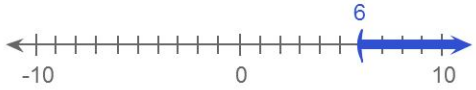
○ D.



○ E.



○ F.



ID: 9.1.11

28. $f(x) = x^2 - 3x$ and $g(x) = 7 - x$

Find $(f - g)(x)$ and $(f - g)(3)$.

$(f - g)(x) =$ ☐

$(f - g)(3) =$ ☐

ID: 8.3.35

29. Find the intersection of the sets.

$\{1, 2, 3, 7, 9\} \cap \{0, 1, 2, 9\}$

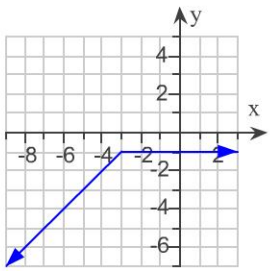
Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. $\{1, 2, 3, 7, 9\} \cap \{0, 1, 2, 9\} = \{\square\}$
(Use a comma to separate answers as needed.)

B. The solution is the empty set.

ID: 9.2.1

30. Find the domain and range of the relation.



Find the domain. Select the correct choice below and fill in the answer box to complete your choice.

A. The domain contains infinitely many points. The domain in interval notation is $\square$.

B. The domain can be described by a list of distinct numbers. The domain is $\{x \mid x = \square\}$.
(Use a comma to separate answers as needed.)

Find the range. Select the correct choice below and fill in the answer box to complete your choice.

A. The range contains infinitely many points. The range in interval notation is $\square$.

B. The range can be described by a list of distinct numbers. The range is $\{y \mid y = \square\}$.
(Use a comma to separate answers as needed.)

ID: 8.2.41

31. Use interval notation to express the solution set and graph the solution set on a number line.

$5x + 5 < 35$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution set is ☐. (Type your answer using interval notation.)

B. The solution set is ∅.

Choose the correct graph below.

A.

B.

C.

D. The solution set is ∅.

ID: 9.1.1

32. Find the domain of the function.

$$f(x) = \frac{7}{x+11} + \frac{1}{x+4}$$

What is the domain of f?

A. $(-\infty, -11)$ or $(-11, \infty)$

B. $(-\infty, \infty)$

C. $(-\infty, 0)$ or $(0, \infty)$

D. $(-\infty, -11)$ or $(-11, -4)$ or $(-4, \infty)$

ID: 8.3.9

33. Solve.

$|4x - 3| = |2x + 16|$

Select the correct choice below and fill in any answer boxes in your choice.

○A. The solution set is {□}.
(Simplify your answer. Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

○B. The solution set is all real numbers.

○C. The solution set is ∅.

ID: 9.3.29

34. Solve and graph the solution set on a number line.

$|x| < 4$

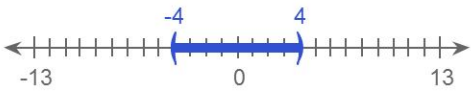
Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

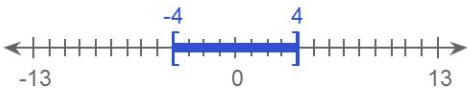
○A. The solution set is □. (Type your answer in interval notation.)

○B. The solution set is ∅.

Choose the correct graph below.

○A. 

○B. 

○C. 

○D. The graph contains no points.

ID: 9.3.39

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35. Let $f(x) = 13x$ and $g(x) = -2x - 6$. Find $(f+g)(x)$, $(f-g)(x)$, $(fg)(x)$, and $\left(\frac{f}{g}\right)(x)$.

$(f+g)(x) =$ ☐ (Simplify your answer.)

$(f-g)(x) =$ ☐ (Simplify your answer.)

$(fg)(x) =$ ☐ (Simplify your answer.)

$\left(\frac{f}{g}\right)(x) =$ ☐ (Simplify your answer.)

ID: 8.3.17

36. Find the indicated function values.

$$f(x) = (-x)^3 - x^2 - x + 14$$

a. $f(0)$
b. $f(3)$
c. $f(-3)$
d. $f(2) + f(-2)$

a. $f(0) =$ ☐ (Simplify your answer.)

b. $f(3) =$ ☐ (Simplify your answer.)

c. $f(-3) =$ ☐ (Simplify your answer.)

d. $f(2) + f(-2) =$ ☐ (Simplify your answer.)

ID: 8.1.17

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37. Solve and graph the solution set on a number line.

$|x + 7| > 1$

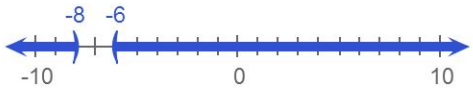
Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution set is ☐. (Type your answer in interval notation.)

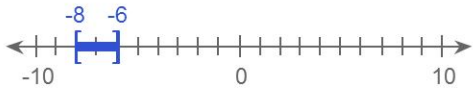
B. The solution set is ∅.

Choose the correct graph below.

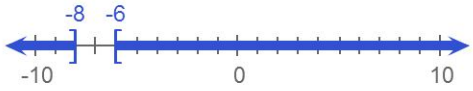
A.



B.



C.

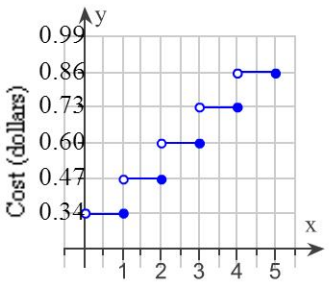


D. The graph contains no points.

ID: 9.3.49

38. The figure shows the cost of mailing a first-class letter, f(x), in a country as a function of its weight, x, in ounces.

What is the cost of mailing a letter that weighs 1.8 ounces?

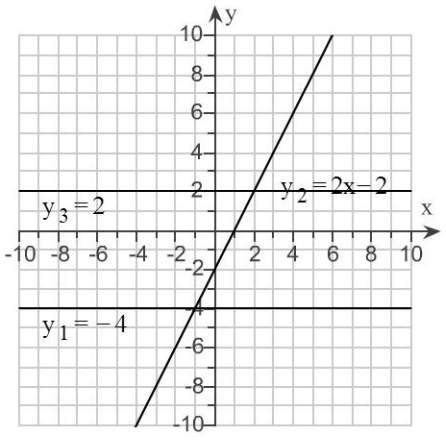


The cost is $☐.

ID: 8.2.57

39. Use the graphs of y_1, y_2 and y_3 to solve each compound inequality.

$-4 \le 2x - 2 \le 2$



The solution is ☐.
(Type your answer in interval notation.)

ID: 9.2.61

40. For $f(x) = \sqrt{x}$ and $g(x) = x - 5$ find the following.

a. $(f \circ g)(x)$ **b.** $(g \circ f)(x)$ **c.** $(f \circ g)(6)$

a. What is $(f \circ g)(x)$?

$(f \circ g)(x) =$ ☐ (Simplify your answer.)

b. What is $(g \circ f)(x)$?

$(g \circ f)(x) =$ ☐ (Simplify your answer.)

c. What is $(f \circ g)(6)$?

$(f \circ g)(6) =$ ☐ (Simplify your answer.)

ID: 8.4.9

41. Let $f(x) = x^2 + 9x$ and $g(x) = 1 - x$.

Find $\left(\frac{f}{g}\right)(x)$ and $\left(\frac{f}{g}\right)(4)$.

$\left(\frac{f}{g}\right)(x) =$ ☐

$\left(\frac{f}{g}\right)(4) =$ ☐ (Type an integer or fraction.)

ID: 8.3.43

42. The function $f(x) = \frac{5x + 8}{x - 1}$ is one-to-one.

Find an equation for $f^{-1}(x)$, the inverse function.

$f^{-1}(x) =$ ☐
(Simplify your answer. Use integers or fractions for any numbers in the expression.)

ID: 8.4.33

43. Determine whether the relation is a function. Give the domain and the range for the relation.

{(2,4),(6,6),(7,7)}

Is this a function?

- ○ Yes
- ○ No

The domain is { }.
(Use commas to separate answers.)

The range is { }.
(Use commas to separate answers.)

ID: 8.1.1

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44. Solve the linear inequality. Other than ∅, graph the solution set on a number line.

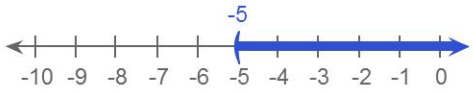
$$6(x + 10) - 13 < 27 + 10(4 + x)$$

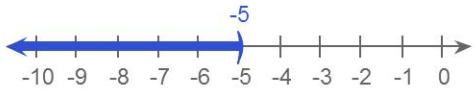
Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

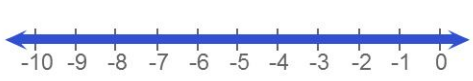
A. The solution set in interval notation is ☐.
(Simplify your answer. Use integers or fractions for any numbers in the expression. Type your answer in interval notation.)

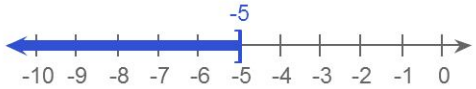
B. The solution set is ∅.

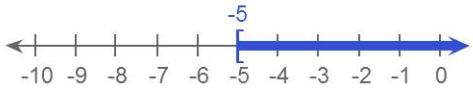
Graph the solution set on a number line. Choose the correct graph below.

A.


B.


C.


D.


E.


F. The solution set is ∅.

ID: 9.1.21

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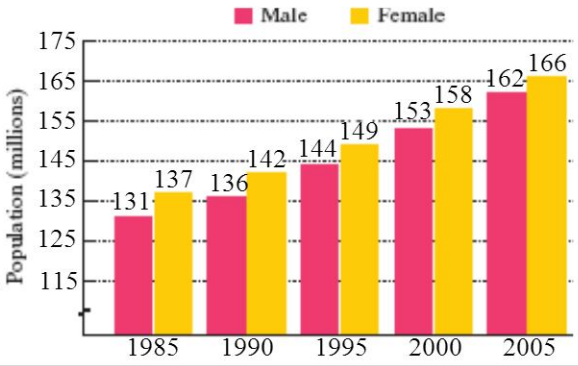
45. The bar graph shows the population of a particular country, in millions, for five selected years. The two following functions model the data, where x is the number of years after 1985.

$M(x) = 1.88x + 116.2$ male population

$F(x) = 1.47x + 144.3$ female population



Answer the following questions.

a. Write a function that models the ratio of males to females of a particular country for the years shown in the bar graph.

Choose the correct answer below.

A. $\left(\frac{M}{F}\right)(x) = \frac{1.88x + 116.2}{1.47x + 144.3}$

B. $\left(\frac{F}{M}\right)(x) = \frac{1.47x + 144.3}{1.88x + 116.2}$

C. $(M - F)(x) = 0.41x - 28.1$

D. $(MF)(x) = 2.764x + 16767.66$

b. Use the function from part (a) to find the ratio of males to females in 2000.

The ratio of males to females in 2000 is ☐.

(Round the final answer to three decimal places as needed. Round all intermediate values to three decimal places as needed.)

c. Does the result in part (b) overestimate or underestimate the actual ratio of males to females in 2000 shown by the bar graph? By how much?

Choose the correct answer below.

- The result in part (b) underestimates the actual ratio of men to women in 2000 shown by the bar graph by approximately 0.1.
- The result in part (b) overestimates the actual ratio of men to women in 2000 shown by the bar graph by approximately 0.1.

ID: 8.3.65

46. Let $f(x) = x^5 + 3x$ and $g(x) = 2 - x$. Find the domain of $\frac{f}{g}$.

Determine the domain of $\frac{f}{g}$. Choose the correct answer below.

- A. $(-\infty, 2)$
- B. $(-\infty, \infty)$
- C. $(-\infty, 2)$ or $(2, \infty)$
- D. $(2, \infty)$

ID: 8.3.49

47. When 5 times a number is subtracted from 2, the absolute value of the difference is at least 3. Use interval notation to express the set of all real numbers that satisfy this condition.

The solution set is $\square$.
(Type your answer in interval notation. Use integers or fractions for any numbers in the expression.)

ID: 9.3.83

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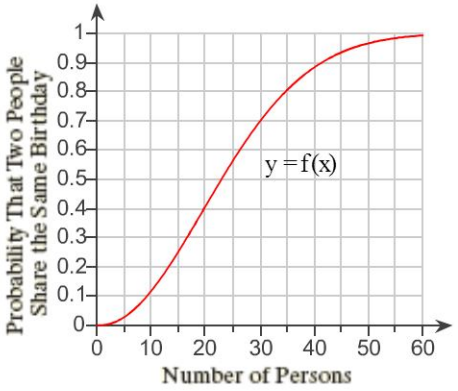
48.

The given graph represents the probability that two people in the same room share a birthday as a function of the number of people in the room. Call the function f. Complete parts **a** and **b**.



a. Explain why f has an inverse that is a function.
b. Describe in practical terms the meanings of $f^{-1}(0.4)$, $f^{-1}(0.55)$, $f^{-1}(0.25)$.

a. Choose the correct answer below.

- ○ A. A horizontal line intersects the graph of f in more than one point.
- ○ B. No horizontal line intersects the graph of f in more than one point.

b. Choose the correct description for $f^{-1}(0.4)$ below.

- ○ A. $f^{-1}(0.4)$, or approximately 20, represents the number of people who would have to be in the room so that the probability of two sharing a birthday would be 0.4.
- ○ B. $f^{-1}(0.4)$, or approximately 20, represents the number of people who would have to be in the room so that the probability of two not sharing a birthday would be 0.4.

Choose the correct description for $f^{-1}(0.55)$ below.

- ○ A. $f^{-1}(0.55)$, or approximately 25, represents the number of people who would have to be in the room so that the probability of two sharing a birthday would be 0.55.
- ○ B. $f^{-1}(0.55)$, or approximately 25, represents the number of people who would have to be in the room so that the probability of two not sharing a birthday would be 0.55.

Choose the correct description for $f^{-1}(0.25)$ below.

- ○ A. $f^{-1}(0.25)$, or approximately 15, represents the number of people who would have to be in the room so that the probability of two sharing a birthday would be 0.25.
- ○ B. $f^{-1}(0.25)$, or approximately 15, represents the number of people who would have to be in the room so that the probability of two not sharing a birthday would be 0.25.

48. (cont.)

ID: 8.4.65

49. For the pair of functions, f and g, determine the domain of $f+g$.

$$f(x)=\frac{11x}{x-3},\ g(x)=\frac{7}{x+3}$$

Determine the domain of $f+g$. Choose the correct answer below.

A. $(-\infty,-3)$ or $(-3,3)$ or $(3,\infty)$

B. $(-\infty,\infty)$

C. $(-\infty,3)$ or $(3,\infty)$

D. $(-\infty,-3)$ or $(3,\infty)$

ID: 8.3.25

50. Use the table below to find the indicated function values.

x	h(x)
− 20	20
− 10	10
0	0
10	10
20	20

a. $h(-10)$

b. $h(10)$

c. For what values of x is $h(x)=10$?

ID: 8.1.23

a. $h(-10)=$ ☐

b. $h(10)=$ ☐

c. For what values of x is $h(x)=10$?

$x=$ ☐

(Use a comma to separate answers as needed.)

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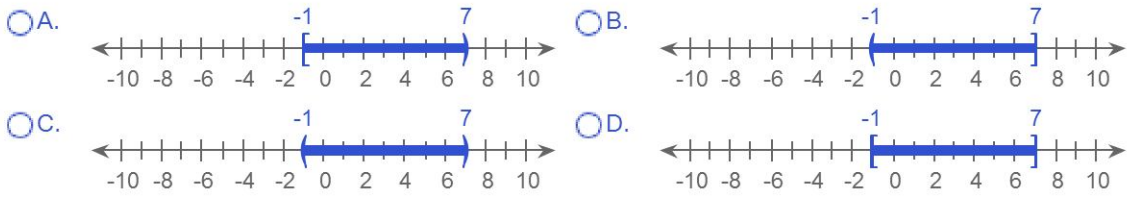
51. Solve the inequality and graph the solution set on a number line.

$0 < x + 1 < 8$

The solution in interval notation is ☐.

Choose the correct graph below.



ID: 9.2.25

52. The functions f and g are defined by the following tables. Find $f^{-1}(g(-2))$.

x	f(x)
-4	-1
-2	3
6	11
10	12

x	g(x)
-5	3
-2	11
9	4
10	-2

$f^{-1}(g(-2)) =$ ☐

ID: 8.4.49

53. Find $f(g(x))$ and $g(f(x))$ and determine whether the pair of functions f and g are inverses of each other.

$$f(x) = -16x \text{ and } g(x) = -\frac{1}{16}x$$

a. $f(g(x)) =$ ☐ (Simplify your answer.)

b. $g(f(x)) =$ ☐ (Simplify your answer.)

c. Are f and g inverses of each other?

- ○ No
- ○ Yes

ID: 8.4.23

54. Find the solution set for the equation.

$$|9x - 6| + 9 = 25$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ○ A. The solution set is {☐}.
  (Simplify your answer. Use a comma to separate answers as needed.)
- ○ B. The solution set is all real numbers.
- ○ C. The solution set is ∅.

ID: 9.3.17

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55. Use the table defining f and g to solve the following problem.

$(f+g)(-1)-(g-f)(2)$

x	f(x)	g(x)
-2	-10	-2
-1	-4	1
0	2	4
1	8	7
2	14	10

$(f+g)(-1)-(g-f)(2)=$ ☐ (Simplify your answer.)

ID: 8.3.59

56. Find the domain of the function.

$f(x) = 7x + 11$

Determine the domain of f(x). Choose the correct answer below.

- ○ A. $(-\infty,11)$ or $(11,\infty)$
- ○ B. $(7,\infty)$
- ○ C. $(-\infty,7)$
- ○ D. $(-\infty,\infty)$

ID: 8.3.1

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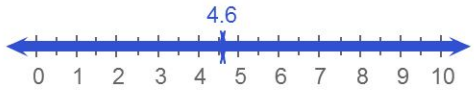
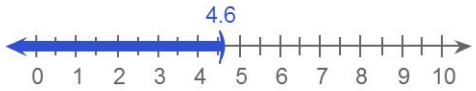
57. Express the interval in set-builder notation and graph the interval on a number line.

$(-\infty, 4.6)$

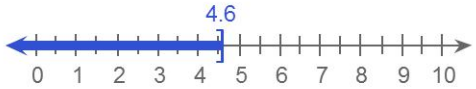
The solution set in set-builder notation is $\{x \mid \square\}$.
(Use integers or decimals for any numbers in the expression.)

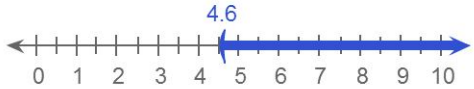
Choose the correct graph below.

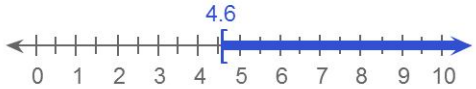
A. 

B. 

C. 

D. 

E. 

F. 

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1. 6

2. A, $[2,\infty)$

3. $6 \le x \le 9$
   D

4. A
   C
   E
   A, $(-\infty,3)$

5. C
   D
   C
   A, $(3,5)$

6. A, 6

7. -9

8. B
   D

9. A, $(-\infty,1)\cup(8,\infty)$
   C

10. 6
    12
    -3
    $7a+6$
    $a+14$

11. $6x+48$
    $6x+8$
    60

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12. A, $[-14,4]$
C

13. A, $-4,8$

14. -4
6
70
508

15. (40,356.4)
1990
356.4
(40,355)
1990
355
quadratic

16. 2

17. D

18. A, b, e, m, q, t

19. A, $[-6,2]$
C

20. C

21. x
x
f and g are inverses of each other.

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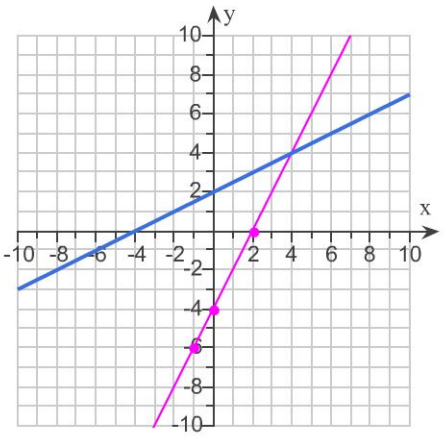
22. D
C
E
A, $(-\infty,1]$

23. $24{,}000 + 40x$
$160x$
$120x - 24{,}000$
200

24. Yes

25. B
B
B
A, $(-\infty,-9)\cup[-8,\infty)$

26. 

27. A, $(-\infty,6)$
D

28. $x^2 - 2x - 7$
-4

29. A, 1,2,9

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30. A, $(-\infty, \infty)$
A, $(-\infty, -1]$

31. A, $(-\infty, 6)$
B

32. D

33. A, $\frac{19}{2}, -\frac{13}{6}$

34. A, $(-4, 4)$
B

35. $11x - 6$
$15x + 6$
$-26x^2 - 78x$
$13x$
$-2x - 6$

36. 14
-25
35
20

37. A, $(-\infty, -8) \cup (-6, \infty)$
A

38. 0.47

39. $[-1, 2]$

40. $\sqrt{x - 5}$
$\sqrt{x} - 5$
1

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41. $\dfrac{x^2+9x}{1-x}$
$-\dfrac{52}{3}$

42. $\dfrac{x+8}{x-5}$

43. Yes
2,6,7
4,6,7

44. A, $(-5,\infty)$
A

45. A
0.868
The result in part (b) underestimates the actual ratio of men to women in 2000 shown by the bar graph by approximately 0.1.

46. C

47. $\left(-\infty,-\dfrac{1}{5}\right]\cup[1,\infty)$

48. B
A
A
A

49. A

50. 10
10
10, − 10

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51. $(-1,7)$
C

52. 6

53. x
x
Yes

54. A, $\frac{22}{9}, -\frac{10}{9}$

55. 1

56. D

57. $x < 4.6$
B