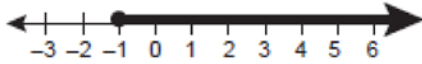


A.REI.B.3: Solving Linear Inequalities 2

1 Which inequality is shown on the accompanying graph?



- 1) $x < -1$
- 2) $x \leq -1$
- 3) $x > -1$
- 4) $x \geq -1$

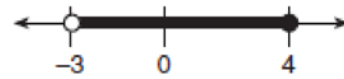
2 Which graph best represents the solution set for the inequality $x > \sqrt{2}$?

- 1)
- 2)
- 3)
- 4)

3 Which graph represents the solution set of $2x - 5 < 3$?

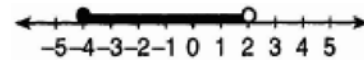
- 1)
- 2)
- 3)
- 4)

4 Which inequality is represented in the accompanying graph?



- 1) $-3 \leq x < 4$
- 2) $-3 \leq x \leq 4$
- 3) $-3 < x < 4$
- 4) $-3 < x \leq 4$

5 Which inequality is represented in the graph below?

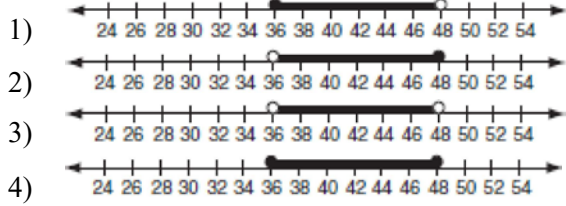


- 1) $-4 < x < 2$
- 2) $-4 \leq x < 2$
- 3) $-4 < x \leq 2$
- 4) $-4 \leq x \leq 2$

6 Which graph represents the solution set for $2x - 4 \leq 8$ and $x + 5 \geq 7$?

- 1)
- 2)
- 3)
- 4)

7 In order to be admitted for a certain ride at an amusement park, a child must be greater than or equal to 36 inches tall and less than 48 inches tall. Which graph represents these conditions?



8 What is the solution of the inequality $-6x - 17 \geq 8x + 25$?

- 1) $x \geq 3$
- 2) $x \leq 3$
- 3) $x \geq -3$
- 4) $x \leq -3$

9 What is the solution of $4x - 30 \geq -3x + 12$?

- 1) $x \geq 6$
- 2) $x \leq 6$
- 3) $x \geq -6$
- 4) $x \leq -6$

10 The inequality $\frac{1}{2}x + 3 < 2x - 6$ is equivalent to

- 1) $x < -\frac{5}{6}$
- 2) $x > -\frac{5}{6}$
- 3) $x < 6$
- 4) $x > 6$

11 What is the solution of $3(2m - 1) \leq 4m + 7$?

- 1) $m \leq 5$
- 2) $m \geq 5$
- 3) $m \leq 4$
- 4) $m \geq 4$

12 On June 17, the temperature in New York City ranged from 90° to 99° , while the temperature in Niagara Falls ranged from 60° to 69° . The difference in the temperatures in these two cities must be between

- 1) 20° and 30°
- 2) 20° and 40°
- 3) 25° and 35°
- 4) 30° and 40°

13 Solve the inequality $-5(x - 7) < 15$ algebraically for x .

14 Solve algebraically for x : $2(x - 4) \geq \frac{1}{2}(5 - 3x)$

15 The manufacturer of Ron's car recommends that the tire pressure be at least 26 pounds per square inch and less than 35 pounds per square inch. On the accompanying number line, graph the inequality that represents the recommended tire pressure.



A.REI.B.3: Solving Linear Inequalities 2 Answer Section

1 ANS: 4

$$10 \times 8 + \frac{1}{2} \pi \times 4^2 = 80 + 8\pi$$

REF: 080815a

2 ANS: 2

REF: 060616a

3 ANS: 1

REF: 011418ia

4 ANS: 4

REF: 080411a

5 ANS: 2

REF: 060001a

6 ANS: 2

$$\begin{array}{l} 2x - 4 \leq 8 \\ 2x \leq 12. \\ x \leq 6 \end{array} \quad \begin{array}{l} x + 5 \geq 7 \\ x \geq 2 \end{array}$$

REF: 010312a

7 ANS: 1

REF: 010610a

8 ANS: 4

$$-6x - 17 \geq 8x + 25$$

$$-42 \geq 14x$$

$$-3 \geq x$$

REF: 081121ia

9 ANS: 1

$$4x - 30 \geq -3x + 12$$

$$7x \geq 42$$

$$x \geq 6$$

REF: 061406ia

10 ANS: 4

$$\frac{1}{2}x + 3 < 2x - 6$$

$$9 < \frac{3x}{2}$$

$$6 < x$$

REF: 010425a

11 ANS: 1

$$3(2m - 1) \leq 4m + 7$$

$$6m - 3 \leq 4m + 7$$

$$2m \leq 10$$

$$m \leq 5$$

REF: 081002ia

12 ANS: 2

The greatest difference occurs when NYC's temperature is 99° and Niagara Falls' temperature is 60° . The maximum difference is less than 40° . The least difference occurs when NYC's temperature is 90° and Niagara Falls' temperature is 69° . The minimum difference is greater than 20° .

REF: 089910a

13 ANS:

$$-5(x - 7) < 15$$

$$x - 7 > -3$$

$$x > 4$$

REF: 061331ia

14 ANS:

$$2(x - 4) \geq \frac{1}{2}(5 - 3x)$$

$$4(x - 4) \geq 5 - 3x$$

$$4x - 16 \geq 5 - 3x$$

$$7x \geq 21$$

$$x \geq 3$$

REF: 011234ia

15 ANS:



REF: 060532a