

A.REI.B.3: Solving Linear Inequalities 1

- 1 What is the solution to $2h + 8 > 3h - 6$?
 - 1) $h < 14$
 - 2) $h < \frac{14}{5}$
 - 3) $h > 14$
 - 4) $h > \frac{14}{5}$

- 2 When $3x + 2 \leq 5(x - 4)$ is solved for x , the solution is
 - 1) $x \leq 3$
 - 2) $x \geq 3$
 - 3) $x \leq -11$
 - 4) $x \geq 11$

- 3 The solution to $4p + 2 < 2(p + 5)$ is
 - 1) $p > -6$
 - 2) $p < -6$
 - 3) $p > 4$
 - 4) $p < 4$

- 4 What is the solution to $-3(x - 6) > 2x - 2$?
 - 1) $x > 4$
 - 2) $x < 4$
 - 3) $x > -16$
 - 4) $x < -16$

- 5 What is the solution to the inequality $2m - 4 \leq 3(2m + 4)$?
 - 1) $m \leq -2$
 - 2) $m \geq -2$
 - 3) $m \leq -4$
 - 4) $m \geq -4$

- 6 What is the solution to the inequality $2x - 7 > 2.5x + 3$?
 - 1) $x > -5$
 - 2) $x < -5$
 - 3) $x > -20$
 - 4) $x < -20$

- 7 What is the solution to $\frac{3}{2}b + 5 < 17$?
 - 1) $b < 8$
 - 2) $b > 8$
 - 3) $b < 18$
 - 4) $b > 18$

- 8 The inequality $7 - \frac{2}{3}x < x - 8$ is equivalent to
 - 1) $x > 9$
 - 2) $x > -\frac{3}{5}$
 - 3) $x < 9$
 - 4) $x < -\frac{3}{5}$

9 What is the solution to the inequality $2 + \frac{4}{9}x \geq 4 + x$?

1) $x \leq -\frac{18}{5}$

3) $x \leq \frac{54}{5}$

2) $x \geq -\frac{18}{5}$

4) $x \geq \frac{54}{5}$

10 What is the solution to the inequality below?

$$4 - \frac{2}{5}x \geq \frac{1}{3}x + 15$$

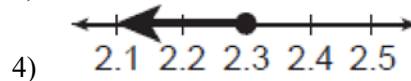
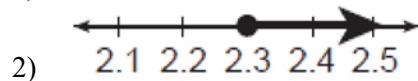
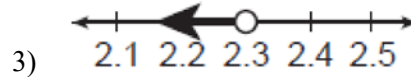
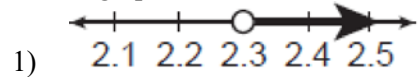
1) $x \leq 11$

3) $x \leq -15$

2) $x \geq 11$

4) $x \geq -15$

11 Which graph is the solution to the inequality $6.4 - 4x \geq -2.8$?



12 Solve $5(x - 2) \leq 3x + 20$ algebraically.

13 Solve algebraically for y : $4(y - 3) \leq 4(2y + 1)$

14 Solve the inequality $-\frac{2}{3}x + 6 > -12$ algebraically for x .

15 Solve the inequality below:

$$1.8 - 0.4y \geq 2.2 - 2y$$

16 Solve algebraically for x : $3600 + 1.02x < 2000 + 1.04x$

17 Solve $\frac{3}{5}x + \frac{1}{3} < \frac{4}{5}x - \frac{1}{3}$ for x .

A.REI.B.3: Solving Linear Inequalities 1

Answer Section

1 ANS: 1

$$2h + 8 > 3h - 6$$

$$14 > h$$

$$h < 14$$

REF: 081607ai

2 ANS: 4

$$3x + 2 \leq 5x - 20$$

$$22 \leq 2x$$

$$11 \leq x$$

REF: 061609ai

3 ANS: 4

$$4p + 2 < 2p + 10$$

$$2p < 8$$

$$p < 4$$

REF: 061801ai

4 ANS: 2

$$-3(x - 6) > 2x - 2$$

$$-3x + 18 > 2x - 2$$

$$20 > 5x$$

$$4 > x$$

REF: 082310ai

5 ANS: 4

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

$$2m - 4 \leq 6m + 12$$

$$-16 \leq 4m$$

$$-4 \leq m$$

REF: 082413ai

6 ANS: 4

$$2x - 7 > 2.5x + 3$$

$$-10 > 0.5x$$

$$-20 > x$$

REF: 012418ai

7 ANS: 1

$$\frac{3}{2}b < 12$$

$$b < 12\left(\frac{2}{3}\right)$$

$$b < 8$$

REF: 062207ai

8 ANS: 1

$$7 - \frac{2}{3}x < x - 8$$

$$15 < \frac{5}{3}x$$

$$9 < x$$

REF: 011507ai

9 ANS: 1

$$2 + \frac{4}{9}x \geq 4 + x$$

$$-2 \geq \frac{5}{9}x$$

$$x \leq -\frac{18}{5}$$

REF: 081711ai

10 ANS: 3

$$-\frac{2}{5}x \geq \frac{1}{3}x + 11$$

$$-\frac{11}{15}x \geq 11$$

$$-\frac{15}{11}\left(-\frac{11}{15}x\right) \leq \left(-\frac{15}{11}\right)11$$

$$x \leq -15$$

REF: 062322ai

11 ANS: 4

$$6.4 - 4x \geq -2.8$$

$$9.2 \geq 4x$$

$$2.3 \geq x$$

REF: 012522ai

12 ANS:

$$5x - 10 \leq 3x + 20$$

$$2x \leq 30$$

$$x \leq 15$$

REF: 062425ai

13 ANS:

$$4y - 12 \leq 8y + 4$$

$$-16 \leq 4y$$

$$-4 \leq y$$

REF: 062125ai

14 ANS:

$$-3\left(-\frac{2}{3}x + 6 > -12\right)$$

$$2x - 18 < 36$$

$$2x < 54$$

$$x < 27$$

REF: 012327ai

15 ANS:

$$1.8 - 0.4y \geq 2.2 - 2y$$

$$1.6y \geq 0.4$$

$$y \geq 0.25$$

REF: 011727ai

16 ANS:

$$3600 + 1.02x < 2000 + 1.04x$$

$$1600 < 0.02x$$

$$80000 < x$$

REF: 011925ai

17 ANS:

$$\frac{2}{3} < \frac{x}{5}$$

$$\frac{10}{3} < x$$

REF: 081929ai