

**A.A.21: Interpreting Solutions: Determine whether a given value is a solution to a given linear equation in one variable or linear inequality in one variable**

- 1 The statement  $|-15| < x < |-20|$  is true when  $x$  is equal to
  - 1)  $-16$
  - 2)  $-14$
  - 3)  $17$
  - 4)  $21$
- 2 Which number is in the solution set of the inequality  $5x + 3 > 38$ ?
  - 1)  $5$
  - 2)  $6$
  - 3)  $7$
  - 4)  $8$
- 3 Which value of  $x$  is a solution of the inequality  $25x - 100 < 250$ ?
  - 1)  $13$
  - 2)  $14$
  - 3)  $15$
  - 4)  $16$
- 4 Which value of  $x$  is in the solution set of  $\frac{4}{3}x + 5 < 17$ ?
  - 1)  $8$
  - 2)  $9$
  - 3)  $12$
  - 4)  $16$
- 5 Which value of  $x$  is in the solution set of the inequality  $-2x + 5 > 17$ ?
  - 1)  $-8$
  - 2)  $-6$
  - 3)  $-4$
  - 4)  $12$
- 6 Which value of  $x$  is in the solution set of the inequality  $-4x + 2 > 10$ ?
  - 1)  $-2$
  - 2)  $2$
  - 3)  $3$
  - 4)  $-4$
- 7 Which value of  $x$  is in the solution set of  $-3x + 8 \geq 14$ ?
  - 1)  $-3$
  - 2)  $-1$
  - 3)  $0$
  - 4)  $3$
- 8 Which value of  $x$  is in the solution set of the inequality  $-2(x - 5) < 4$ ?
  - 1)  $0$
  - 2)  $2$
  - 3)  $3$
  - 4)  $5$
- 9 In the set of positive integers, what is the solution set of the inequality  $2x - 3 < 5$ ?
  - 1)  $\{0, 1, 2, 3\}$
  - 2)  $\{1, 2, 3\}$
  - 3)  $\{0, 1, 2, 3, 4\}$
  - 4)  $\{1, 2, 3, 4\}$
- 10 Find all the negative odd integers that satisfy the following inequality:  $-3x + 1 \leq 17$
- 11 Given:  $A = \{18, 6, -3, -12\}$   
Determine all elements of set  $A$  that are in the solution of the inequality  $\frac{2}{3}x + 3 < -2x - 7$ .

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**Answer Section**

1 ANS: 3 REF: 081317ia

2 ANS: 4

$$5x + 3 > 38$$

$$5x > 35$$

$$x > 7$$

REF: 060311a

3 ANS: 1

$$25x - 100 < 250$$

$$25x < 350$$

$$x < 14$$

REF: 061517ia

4 ANS: 1

$$\frac{4}{3}x + 5 < 17$$

$$\frac{4}{3}x < 12$$

$$4x < 36$$

$$x < 9$$

REF: 060914ia

5 ANS: 1

$$-2x + 5 > 17$$

$$-2x > 12$$

$$x < -6$$

REF: fall0724ia

6 ANS: 4

$$-4x + 2 > 10$$

$$-4x > 8$$

$$x < -2$$

REF: 080805ia

7 ANS: 1

$$-3x + 8 \geq 14$$

$$-3x \geq 6$$

$$x \leq -2$$

REF: 081309ia

8 ANS: 4

$$-2(x - 5) < 4$$

$$-2x + 10 < 4$$

$$-2x < -6$$

$$x > 3$$

REF: 080913ia

9 ANS: 2

$$2x - 3 < 5$$

$$2x < 8$$

$$x < 4$$

REF: 060118a

10 ANS:

$$-3x + 1 \leq 17$$

$$-5, -3, -1. \quad -3x \leq 16$$

$$x \geq -\frac{16}{3}$$

REF: 010536a

11 ANS:

$$-12. \quad 3\left(\frac{2}{3}x + 3 < -2x - 7\right)$$

$$x + 9 < -6x - 21$$

$$7x < -30$$

$$x < \frac{-30}{7}$$

REF: 061034ia