

A.REI.B.3: Interpreting Solutions 1

- 1 Given $7x + 2 \geq 58$, which number is *not* in the solution set?
 - 1) 6
 - 2) 8
 - 3) 10
 - 4) 12

- 2 Which value would be a solution for x in the inequality $47 - 4x < 7$?
 - 1) -13
 - 2) -10
 - 3) 10
 - 4) 11

- 3 Given the set $\{x \mid -2 \leq x \leq 2, \text{ where } x \text{ is an integer}\}$, what is the solution of $-2(x - 5) < 10$?
 - 1) 0, 1, 2
 - 2) 1, 2
 - 3) -2, -1, 0
 - 4) -2, -1

- 4 Determine the smallest integer that makes $-3x + 7 - 5x < 15$ true.

- 5 Solve the inequality below to determine and state the smallest possible value for x in the solution set.
$$3(x + 3) \leq 5x - 3$$

- 6 Given $2x + ax - 7 > -12$, determine the largest integer value of a when $x = -1$.

- 7 Solve for x algebraically:
$$7x - 3(4x - 8) \leq 6x + 12 - 9x$$
If x is a number in the interval $[4, 8]$, state all integers that satisfy the given inequality. Explain how you determined these values.

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Answer Section

1 ANS: 1
 $7x + 2 \geq 58$
 $7x \geq 56$
 $x \geq 8$

REF: 012003ai

2 ANS: 4
 $47 - 4x < 7$
 $-4x < -40$
 $x > 10$

REF: 061713ai

3 ANS: 2
 $-2(x - 5) < 10$
 $x - 5 > -5$
 $x > 0$

REF: 011817ai

4 ANS:
 $-3x + 7 - 5x < 15$ 0 is the smallest integer.
 $-8x < 8$
 $x > -1$

REF: 061530ai

5 ANS:
6. $3x + 9 \leq 5x - 3$
 $12 \leq 2x$
 $6 \leq x$

REF: 081430ai

6 ANS:
 $2(-1) + a(-1) - 7 > -12$ $a = 2$
 $-a - 9 > -12$
 $-a > -3$
 $a < 3$

REF: 061427ai

7 ANS:

$7x - 3(4x - 8) \leq 6x + 12 - 9x$ 6, 7, 8 are the numbers greater than or equal to 6 in the interval.

$$7x - 12x + 24 \leq -3x + 12$$

$$-5x + 24 \leq -3x + 12$$

$$12 \leq 2x$$

$$6 \leq x$$

REF: 081534ai