A.REI.B.3: Solving Linear Equations 2b

1 What is the value of x in the equation $5 - 3x = -7$?

2 What is the solution of the equation
$3y - 5y + 10 = 36$

3 The solution of the equation $5 - 2x = -4x - 7$ is

4 What is the value of n in the equation
$3n - 8 = 32 - n$?

5 What is the value of p in the equation
$8p + 2 = 4p - 10$?

6 Which value of p is the solution of
$5p - 1 = 2p + 20$?

7 What is the value of p in the equation
$2(3p - 4) = 10$?

8 If $12x = 4(x + 5)$, then x equals

9 Which value of x is the solution of the equation
$2(x - 4) + 7 = 3$?

10 Solve for x: $15x - 3(3x + 4) = 6$

11 If $2(x + 3) = x + 10$, then x equals

12 If $3(x - 2) = 2x + 6$, the value of x is

13 What is the value of x in the equation
$2(x - 3) + 1 = 19$?

14 What is the value of x in the equation
$5(2x - 7) = 15x - 10$?

15 What is the value of x in the equation
$6(x - 2) = 36 - 10x$?

16 What is the value of m in the equation
$2m - (m + 1) = 0$

17 What is the value of x in the equation
    $13x - 2(x + 4) = 8x + 1$?

18 What is the value of x in the equation
    $2(x - 4) = 4(2x + 1)$?

19 If $3(x + 2) - 2(x + 1) = 8$, the value of x is

20 If $2x + 5 = -25$ and $-3m - 6 = 48$, what is the
    product of x and m?

21 If $-2x + 3 = 7$ and $3x + 1 = 5 + y$, the value of y is

22 What is the solution for the equation $x + 1 = x + 2$?

23 Debbie solved the linear equation $3(x + 4) - 2 = 16$
    as follows:

    | [Line 1] | $3(x + 4) - 2 = 16$ |
    | [Line 2] | $3(x + 4) = 18$ |
    | [Line 3] | $3x + 4 = 18$ |
    | [Line 4] | $3x = 14$ |
    | [Line 5] | $x = 4\frac{2}{3}$ |

    She made an error between lines

24 Solve for g: $3 + 2g = 5g - 9$

25 Solve for x: $5(x - 2) = 2(10 + x)$

26 Solve algebraically for x:
    $3(x + 1) - 5x = 12 - (6x - 7)$

A.REI.B.3: Solving Linear Equations 2b
Answer Section

1 ANS:
4
$$5 - 3x = -7$$
$$-3x = -12$$
$$x = 4$$

REF: 060810a
2 ANS:
−13
$$3y - 5y + 10 = 36$$
$$-2y = 26$$
$$y = -13$$

REF: 060214a
3 ANS:
−6
$$5 - 2x = -4x - 7$$
$$2x = -12$$
$$x = -6$$

REF: 011305ia
4 ANS:
10
$$3n - 8 = 32 - n$$
$$4n = 40$$
$$n = 10$$

REF: 010705a
5 ANS:
−3
$$8p + 2 = 4p - 10$$
$$4p = -12$$
$$p = -3$$

REF: 010807a

6 ANS:
7
$$5p - 1 = 2p + 20$$
$$3p = 21$$
$$p = 7$$

REF: 080801ia

7 ANS:
3
$$2(3p - 4) = 10$$
$$6p - 8 = 10$$
$$6p = 18$$
$$p = 3$$

REF: 080602a

8 ANS:
2.5
$$12x = 4(x + 5)$$
$$12x = 4x + 20$$
$$8x = 20$$
$$x = \frac{20}{8} = 2.5$$

REF: spring9802a

9 ANS:
2
$$2(x - 4) + 7 = 3$$
$$2x - 8 = -4$$
$$2x = 4$$
$$x = 2$$

REF: 061425ia

10 ANS:
3
$$15x - 3(3x + 4) = 6$$
$$15x - 9x - 12 = 6$$
$$6x = 18$$
$$x = 3$$

REF: 080015a

11 ANS:
4

$$2(x + 3) = x + 10$$
$$2x + 6 = x + 10$$
$$x = 4$$

REF: 010401a

12 ANS:
12

$$3(x - 2) = 2x + 6$$
$$3x - 6 = 2x + 6$$
$$x = 12$$

REF: 060404a

13 ANS:
12

$$2(x - 3) + 1 = 19$$
$$2x - 6 = 18$$
$$2x = 24$$
$$x = 12$$

REF: 010904a

14 ANS:
−5

$$5(2x - 7) = 15x - 10$$
$$10x - 35 = 15x - 10$$
$$-25 = 5x$$
$$x = -5$$

REF: 010601a

15 ANS:
3

$$6(x - 2) = 36 - 10x$$
$$6x - 12 = 36 - 10x$$
$$16x = 48$$
$$x = 3$$

REF: 060702a

16 ANS:

1

$$2m - (m + 1) = 0$$
$$2m - m - 1 = 0$$
$$m = 1$$

REF: 080812a

17 ANS:

3

$$13x - 2(x + 4) = 8x + 1$$
$$13x - 2x - 8 = 8x + 1$$
$$11x = 8x + 9$$
$$3x = 9$$
$$x = 3$$

REF: 060602a

18 ANS:

−2

$$2(x - 4) = 4(2x + 1)$$
$$2x - 8 = 8x + 4$$
$$-12 = 6x$$
$$-2 = x$$

REF: 011106ia

19 ANS:

4

$$3(x + 2) - 2(x + 1) = 8$$
$$3x + 6 - 2x - 2 = 8$$
$$x + 4 = 8$$
$$x = 4$$

REF: 060813a

20 ANS:

270

$$2x + 5 = -25 \quad -3m - 6 = 48$$
$$2x = -30. \quad -3m = 54 \quad$$. The product of x and m is 270.
$$x = -15 \quad m = -18$$

REF: 080219a

21 ANS:
−10

$$-2x + 3 = 7 \qquad 3(-2) + 1 = 5 + y$$
$$-2x = 4 \qquad . \qquad -5 = 5 + y.$$
$$x = -2 \qquad y = -10$$

REF: 060519a

22 ANS:
There is no solution.

$$x + 1 = x + 2$$
$$1 \ne 2$$

REF: 010908a

23 ANS:
2 and 3
Debbie failed to distribute the 3 properly.

REF: 011009ia

24 ANS:

$$3 + 2g = 5g - 9$$
$$12 = 3g$$
$$g = 4$$

REF: fall0732ia

25 ANS:

$$5(x - 2) = 2(10 + x)$$
10. $\qquad 5x - 10 = 20 + 2x \qquad$.
$$3x = 30$$
$$x = 10$$

REF: 080731a

26 ANS:

4. $3(x + 1) - 5x = 12 - (6x - 7)$
$$3x + 3 - 5x = 12 - 6x + 7$$
$$-2x + 3 = -6x + 19$$
$$4x = 16$$
$$x = 4$$

REF: 061238ia