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

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

1) $-\dfrac{2}{3}$ 2) $\dfrac{2}{3}$ 3) -4 4) 4

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

1) $\dfrac{1}{12}$ 2) $\dfrac{5}{8}$ 3) 1.25 4) 2.5

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

1) -13 2) 2 3) 4.5 4) 13

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

1) 1 2) 2 3) 6 4) 0

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

1) 1 2) 2 3) -2 4) -6

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

1) 1 2) $-\dfrac{1}{2}$ 3) 3 4) $\dfrac{1}{3}$

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

1) -10 2) -6 3) 6 4) 10

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

1) 14 2) 7 3) 5 4) 4

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

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

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

1) 0 2) 5 3) 12 4) 20

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

1) 6 2) 9 3) 10.5 4) 12

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

1) $\dfrac{19}{7}$ 2) $\dfrac{19}{3}$ 3) 3 4) 7

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

1) 1 2) 0.6 3) -5 4) -9

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

1) 1 2) $2\dfrac{1}{3}$ 3) 3 4) $\dfrac{1}{3}$

15 What is the value of x in the equation
$6(x - 2) = 36 - 10x$?
1) −6   2) 1.5   3) 3   4) 6

16 What is the value of m in the equation
$2m - (m + 1) = 0$
1) 1   2) −1   3) $\frac{1}{3}$ 4) 0

17 What is the value of x in the equation
$13x - 2(x + 4) = 8x + 1$?
1) 1   2) 2   3) 3   4) 4

18 What is the value of x in the equation
$2(x - 4) = 4(2x + 1)$?
1) −2   2) 2   3) $-\frac{1}{2}$ 4) $\frac{1}{2}$

19 If $3(x + 2) - 2(x + 1) = 8$, the value of x is
1) 1   2) $\frac{1}{5}$ 3) 5   4) 4

20 If $2x + 5 = -25$ and $-3m - 6 = 48$, what is the
product of x and m?
1) −270   2) −33   3) 3   4) 270

21 If $-2x + 3 = 7$ and $3x + 1 = 5 + y$, the value of y is
1) 1   2) 0   3) −10   4) 10

22 What is the solution for the equation $x + 1 = x + 2$?
1) −1   2) $\frac{1}{2}$ 3) all real numbers   4) There is
no solution.

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
1) 1 and 2   2) 2 and 3   3) 3 and 4   4) 4 and 5

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 2
Answer Section

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

REF: 060810a

2 ANS: 1
$$3y - 5y + 10 = 36$$
$$-2y = 26$$
$$y = -13$$

REF: 060214a

3 ANS: 4
$$5 - 2x = -4x - 7$$
$$2x = -12$$
$$x = -6$$

REF: 011305ia

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

REF: 010705a

5 ANS: 4
$$8p + 2 = 4p - 10$$
$$4p = -12$$
$$p = -3$$

REF: 010807a

6 ANS: 4
$$5p - 1 = 2p + 20$$
$$3p = 21$$
$$p = 7$$

REF: 080801ia

7 ANS: 3

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

REF: 080602a

8 ANS: 4

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

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: 3

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

REF: 060404a

13 ANS: 4

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

REF: 010904a

14 ANS: 3

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

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: 1

$$2(x - 4) = 4(2x + 1)$$

$$2x - 8 = 8x + 4$$

$$-12 = 6x$$

$$-2 = x$$

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: 4

$2x + 5 = -25$ $-3m - 6 = 48$

$2x = -30$. $-3m = 54$. The product of x and m is 270.

$x = -15$ $m = -18$

REF: 080219a

21 ANS: 3

$-2x + 3 = 7$ $3(-2) + 1 = 5 + y$

$-2x = 4$. $-5 = 5 + y$.

$x = -2$ $y = -10$

REF: 060519a

22 ANS: 4

$$x + 1 = x + 2$$

$$1 \ne 2$$

REF: 010908a

23 ANS: 2

Debbie failed to distribute the 3 properly.

REF: 011009ia

24 ANS:

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

$$12 = 3g$$

$$g = 4$$

REF: fall0732ia

25   ANS:

10. $\begin{aligned} 5(x - 2) &= 2(10 + x) \\ 5x - 10 &= 20 + 2x \\ 3x &= 30 \\ x &= 10 \end{aligned}$.

REF: 080731a

26   ANS:

4. $\begin{aligned} 3(x + 1) - 5x &= 12 - (6x - 7) \\ 3x + 3 - 5x &= 12 - 6x + 7 \\ -2x + 3 &= -6x + 19 \\ 4x &= 16 \\ x &= 4 \end{aligned}$

REF: 061238ia