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

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

2   What is the solution of the equation
$3y - 5y + 10 = 36$
   1) -13 2)   2   3)   4.5   4)   13

3   The solution of the equation $5 - 2x = -4x - 7$ is
   1)   1   2)   2   3) -2 4) -6

4   What is the value of n in the equation
$3n - 8 = 32 - n$?
   1) -10 2) -6 3)   6   4)   10

5   What is the value of p in the equation
$8p + 2 = 4p - 10$?
   1)   1   2) -1 3)   3   4) -3

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

7   What is the value of p in the equation
$2(3p - 4) = 10$?
   1)   1   2) $2\dfrac{1}{3}$ 3)   3   4) $\dfrac{1}{3}$

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

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

9   Which value of x is the solution of the equation
$2(x - 4) + 7 = 3$?
   1)   1   2)   2   3)   6   4)   0

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

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

11   If $2(x + 3) = x + 10$, then x equals
   1)   14   2)   7   3)   5   4)   4

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

14   What is the value of x in the equation
$5(2x - 7) = 15x - 10$?
   1)   1   2)   0.6   3) -5 4) -9

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:
$3(x+1) - 5x = 12 - (6x - 7)$

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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

$x + 1 = x + 2$

$1 \neq 2$

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

4

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