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

1 If $0.02x + 0.7 = 0.8$, then x is equal to
1) 0.5
2) 2
3) 5
4) 50

2 What is the value of w in the equation $0.04w + 0.6 = 2.4$?
1) 0.045
2) 0.45
3) 4.5
4) 45

3 The value of y in the equation $0.06y + 200 = 0.03y + 350$ is
1) 500
2) $1{,}666.\overline{6}$
3) 5,000
4) $18{,}333.\overline{3}$

4 What is the value of n in the equation $0.2(n - 6) = 2.8$?
1) 8
2) 2
3) 20
4) 44

5 What is the value of n in the equation $0.6(n + 10) = 3.6$?
1) –0.4
2) 5
3) –4
4) 4

6 Solve for x: $0.35x + 0.6 = 0.1x + 1$

7 Solve for m: $0.6m + 3 = 2m + 0.2$

8 Solve for x: $2(x - 3) = 1.2 - x$

9 Solve for x: $3.3 - x = 3(x - 1.7)$

10 A candy store sells 8-pound bags of mixed hazelnuts and cashews. If c pounds of cashews are in a bag, the price p of the bag can be found using the formula $p = 2.59c + 1.72(8 - c)$. If one bag is priced at \$18.11, how many pounds of cashews does it contain?

11 What is the solution of $\frac{k+4}{2} = \frac{k+9}{3}$?
1) 1
2) 5
3) 6
4) 14

12 Which value of x is the solution of $\frac{2x}{5} + \frac{1}{3} = \frac{7x-2}{15}$?
1) $\frac{3}{5}$
2) $\frac{31}{26}$
3) 3
4) 7

13 Which value of x is the solution of the equation $\frac{2x}{3} + \frac{x}{6} = 5$?
1) 6
2) 10
3) 15
4) 30

14 Solve for x: $\frac{3}{5}(x + 2) = x - 4$
1) 8
2) 13
3) 15
4) 23

15 Which value of x is the solution of $\frac{x}{3} + \frac{x+1}{2} = x$?
1) 1
2) –1
3) 3
4) –3

16 Which value of x is the solution of the equation $\frac{2}{3}x+\frac{1}{2}=\frac{5}{6}$?

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

17 Which value of x is the solution of the equation $\frac{1}{7}+\frac{2x}{3}=\frac{15x-3}{21}$?

1) 6
2) 0
3) $\frac{4}{13}$
4) $\frac{6}{29}$

18 What is the value of x in the equation $\frac{3}{4}x+2=\frac{5}{4}x-6$?

1) –16
2) 16
3) –4
4) 4

19 What is the solution set of the equation $\frac{x}{5}+\frac{x}{2}=14$?

1) {4}
2) {10}
3) {20}
4) {49}

20 What is the value of w in the equation $\frac{3}{4}w+8=\frac{1}{3}w-7$?

1) 2.4
2) –0.2
3) –13.846
4) –36

21 What is the value of x in the equation $\frac{x}{2}+\frac{x}{6}=2$?

1) 12
2) 8
3) 3
4) $\frac{1}{4}$

22 What is the value of w in the equation $\frac{1}{2}w+7=2w-2$?

1) 6
2) 2
3) $3\frac{1}{3}$
4) 3.6

23 In the equation $\frac{1}{4}n+5=5\frac{1}{2}$, n is equal to

1) 8
2) 2
3) $\frac{1}{2}$
4) $\frac{1}{8}$

24 The number of people on the school board is represented by x. Two subcommittees with an equal number of members are formed, one with $\frac{2}{3}x-5$ members and the other with $\frac{x}{4}$ members. How many people are on the school board?

1) 20
2) 12
3) 8
4) 4

25 Solve for x: $\frac{1}{16}x+\frac{1}{4}=\frac{1}{2}$

26 Solve for m: $\frac{m}{5}+\frac{3(m-1)}{2}=2(m-3)$

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

1 ANS: 3

$$0.02x + 0.7 = 0.8$$
$$0.02x = 0.1$$
$$x = \frac{0.1}{0.02}$$
$$x = 5$$

REF: 010906a

2 ANS: 4

$$0.04w + 0.6 = 2.4$$
$$0.04w = 1.8$$
$$w = 45$$

REF: 060804a

3 ANS: 3

$$0.06y + 200 = 0.03y + 350$$
$$0.03y = 150$$
$$y = 5{,}000$$

REF: 081203ia

4 ANS: 3

$$0.2(n - 6) = 2.8$$
$$n - 6 = 14$$
$$n = 20$$

REF: 011502ia

5 ANS: 3

$$0.6(n + 10) = 3.6$$
$$.6n + 6 = 3.6$$
$$.6n = -2.4$$
$$n = -4$$

REF: 080406a

6 ANS:

$$0.35x + 0.6 = 0.1x + 1$$

1.6.

$$0.25x = 0.4$$
$$x = 1.6$$

REF: 080831a

7 ANS:

$0.6m + 3 = 2m + 0.2$

2. $2.8 = 1.4m$

$m = 2$

REF: 060323a

8 ANS:

$2(x - 3) = 1.2 - x$

2.4. $2x - 6 = 1.2 - x$

$3x = 7.2$

$x = 2.4$

REF: 089921a

9 ANS:

$3.3 - x = 3(x - 1.7)$

2.1. $3.3 - x = 3x - 5.1$

$8.4 = 4x$

$x = 2.1$

REF: 060634a

10 ANS:

$p = 2.59c + 1.72(8 - c)$

5. $18.11 = 2.59c + 13.76 - 1.72c$

$4.35 = .87c$

$c = 5$

REF: 010635a

11 ANS: 3

$\frac{k+4}{2} = \frac{k+9}{3}$

$3(k+4) = 2(k+9)$

$3k + 12 = 2k + 18$

$k = 6$

REF: 010906ia

12 ANS: 4

$$\frac{2x}{5} + \frac{1}{3} = \frac{7x-2}{15}$$

$$\frac{(2x \times 3) + (5 \times 1)}{5 \times 3} = \frac{7x-2}{15}$$

$$\frac{6x+5}{15} = \frac{7x-2}{15}$$

$$6x + 5 = 7x - 2$$

$$x = 7$$

REF: 080820ia

13 ANS: 1

$$\frac{(2x \times 6) + (3 \times x)}{3 \times 6} = 5$$

$$\frac{12x + 3x}{18} = 5$$

$$15x = 90$$

$$x = 6$$

REF: 060907ia

14 ANS: 2

$$\frac{3}{5}(x+2) = x - 4$$

$$3(x+2) = 5(x-4)$$

$$3x + 6 = 5x - 20$$

$$26 = 2x$$

$$x = 13$$

REF: 080909ia

15 ANS: 3

$$\frac{x}{3} + \frac{x+1}{2} = x$$

$$\frac{2x + 3(x+1)}{6} = x$$

$$5x + 3 = 6x$$

$$3 = x$$

REF: 061019ia

16 ANS: 1

$$\frac{2x}{3} + \frac{1}{2} = \frac{5}{6}$$

$$\frac{2x}{3} = \frac{1}{3}$$

$$6x = 3$$

$$x = \frac{1}{2}$$

REF: 011112ia

17 ANS: 1

$$\frac{1}{7} + \frac{2x}{3} = \frac{15x - 3}{21}$$

$$\frac{14x + 3}{21} = \frac{15x - 3}{21}$$

$$14x + 3 = 15x - 3$$

$$x = 6$$

REF: 011328ia

18 ANS: 2

$$\frac{3}{4}x + 2 = \frac{5}{4}x - 6$$

$$8 = \frac{2}{4}x$$

$$x = 16$$

REF: 010204a

19 ANS: 3

$$\frac{2x + 5x}{10} = 14$$

$$7x = 140$$

$$x = 20$$

REF: 010507a

20 ANS: 4

$$\frac{3}{4}w + 8 = \frac{1}{3}w - 7$$

$$\frac{5}{12}x = -15$$

$$5x = -180$$

$$x = -36$$

REF: 080620a

21 ANS: 3

$$\frac{6x + 2x}{12} = 2$$
$$8x = 24$$
$$x = 3$$

REF: 010719a

22 ANS: 1

$$\frac{1}{2}w + 7 = 2w - 2$$
$$\frac{3}{2}w = 9$$
$$w = 6$$

REF: 060704a

23 ANS: 2

$$\frac{1}{4}n + 5 = 5\frac{1}{2}$$
$$\frac{1}{4}n = \frac{1}{2}$$
$$n = 2$$

REF: 080708a

24 ANS: 2

$$\frac{2}{3}x - 5 = \frac{x}{4}$$
$$\frac{5}{12}x = 5$$
$$5x = 60$$
$$x = 12$$

REF: 060418a

25 ANS:

$$\frac{1}{16}x = \frac{1}{4}$$
$$x = 4$$

REF: 010636a

26 ANS:

$$\frac{m}{5} + \frac{3(m-1)}{2} = 2(m-3)$$

$$\frac{2m}{10} + \frac{15(m-1)}{10} = 2m - 6$$

$$\frac{17m-15}{10} = 2m - 6$$

$$17m - 15 = 20m - 60$$

$$45 = 3m$$

$$15 = m$$

REF: 081139ia