

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

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

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

3 What is the solution set of the equation

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

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

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

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

5 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

6 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

7 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

8 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

9 Solve for x : $\frac{3}{5}(x + 2) = x - 4$

- 1) 8
- 2) 13
- 3) 15
- 4) 23

10 Which value of x satisfies the equation

$$\frac{7}{3} \left(x + \frac{9}{28} \right) = 20?$$

- 1) 8.25
- 2) 8.89
- 3) 19.25
- 4) 44.92

11 Which value of x satisfies the equation

$$\frac{5}{6} \left(\frac{3}{8} - x \right) = 16?$$

- 1) -19.575
- 2) -18.825
- 3) -16.3125
- 4) -15.6875

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

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

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

14 Which value of x is the solution of $\frac{x}{3} + \frac{x+1}{2} = x$?

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

15 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

16 What is the value of x in the equation

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

- 1) 4
- 2) 6
- 3) 8
- 4) 11

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

18 Solve for x : $\frac{x+3}{2} + \frac{2x}{7} = 7$

19 Solve for x : $\frac{x-3}{5} + \frac{4x}{3} = 4$

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

21 Solve: $\frac{3x+1}{3} = \frac{4x+5}{4} - \frac{8+x}{6} + \frac{2x+5}{8}$

22 Solve: $2x - 1 - \frac{2x-2}{2} = \frac{3x+1}{5} + \frac{x+1}{4}$

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

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Answer Section

1 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

2 ANS: 2

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

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

$$n = 2$$

REF: 080708a

3 ANS: 3

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

$$7x = 140$$

$$x = 20$$

REF: 010507a

4 ANS: 3

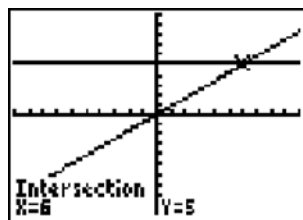
$$\frac{6x + 2x}{12} = 2$$

$$8x = 24$$

$$x = 3$$

REF: 010719a

5 ANS: 1



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

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

$$15x = 90$$

$$x = 6$$

REF: 060907ia

6 ANS: 2

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

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

$$x = 16$$

REF: 010204a

7 ANS: 4

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

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

$$5x = -180$$

$$x = -36$$

REF: 080620a

8 ANS: 1

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

$$\frac{3}{2}w = 9$$

$$w = 6$$

REF: 060704a

9 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

10 ANS: 1

$$\frac{7}{3}\left(x + \frac{9}{28}\right) = 20$$

$$\frac{7}{3}x + \frac{3}{4} = \frac{80}{4}$$

$$\frac{7}{3}x = \frac{77}{4}$$

$$x = \frac{33}{4} = 8.25$$

REF: 061405ai

11 ANS: 2

$$6\left(\frac{5}{6}\left(\frac{3}{8}-x\right)\right) = 16$$

$$8\left(5\left(\frac{3}{8}-x\right)\right) = 96$$

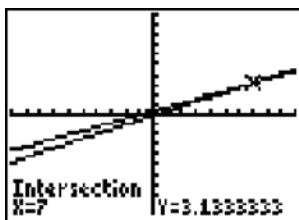
$$15 - 40x = 768$$

$$-40x = 753$$

$$x = -18.825$$

REF: 081713ai

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

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

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

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

$$x = 6$$

REF: 011328ia

14 ANS: 3

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

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

$$5x+3 = 6x$$

$$3 = x$$

REF: 061019ia

15 ANS: 2

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

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

$$5x = 60$$

$$x = 12$$

REF: 060418a

16 ANS: 1

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

$$6x - 12 = 12$$

$$6x = 24$$

$$x = 4$$

REF: 081420ai

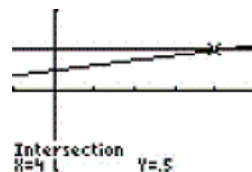
17 ANS:

$$\frac{1}{16}x + \frac{1}{4} = \frac{1}{2}$$

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

$$x = 4$$

Plot1 Plot2 Plot3
 $\sqrt{V1} = 1/16X + 1/4$
 $\sqrt{V2} = 1/2$
 $\sqrt{V3} =$
 $\sqrt{V4} =$
 $\sqrt{V5} =$
 $\sqrt{V6} =$
 $\sqrt{V7} =$



REF: 010636a

18 ANS:

7

REF: 069405siii

19 ANS:

3

REF: 069803siii

20 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

21 ANS:

$$-\frac{5}{2}$$

REF: 019104al

22 ANS:

$$3$$

REF: 069805al

23 ANS:

$$5$$

REF: 089606al