

A.A.25: Solving Equations with Fractional Expressions 2: Solve equations involving fractional expressions. Note: Expressions which result in linear equations in one variable.

- 1 What is the solution set of the equation

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

- 10 Which value of x is the solution of

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

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

- 11 Which value of x is the solution of the equation

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

- 3 Which value of x is the solution of the equation

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

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

- 4 Which value of x is the solution of the equation

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

- 13 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 $\frac{x}{4}$ with members.

How many people are on the school board?

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

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

- 6 What is the value of x in the equation

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

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

- 7 What is the value of w in the equation

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

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

- 8 What is the value of w in the equation

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

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

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

A.A.25: Solving Equations with Fractional Expressions 2: Solve equations involving fractional expressions. Note: Expressions which result in linear equations in one variable.

Answer Section

1 ANS:

{20}

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

$$7x = 140$$

$$x = 20$$

REF: 010507a

2 ANS:

3

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

$$8x = 24$$

$$x = 3$$

REF: 010719a

3 ANS:

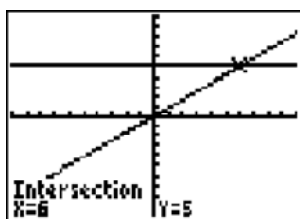
6

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

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

$$15x = 90$$

$$x = 6$$



REF: 060907ia

4 ANS:

$$\frac{1}{2}$$

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

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

$$6x = 3$$

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

REF: 011112ia

5 ANS:

$$2$$

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

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

$$n = 2$$

REF: 080708a

6 ANS:

$$16$$

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

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

$$x = 16$$

REF: 010204a

7 ANS:

$$-36$$

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

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

$$5x = -180$$

$$x = -36$$

REF: 080620a

8 ANS:

6

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

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

$$w = 6$$

REF: 060704a

9 ANS:

13

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

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

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

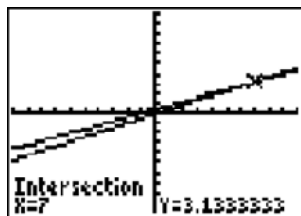
$$26 = 2x$$

$$x = 13$$

REF: 080909ia

10 ANS:

7



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

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

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

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

$$x = 7$$

REF: 080820ia

11 ANS:

6

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

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

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

$$x = 6$$

REF: 011328ia

12 ANS:

3

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

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

$$5x+3 = 6x$$

$$3 = x$$

REF: 061019ia

13 ANS:

12

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

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

$$5x = 60$$

$$x = 12$$

REF: 060418a

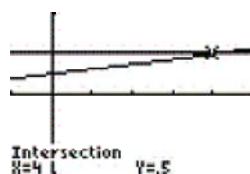
14 ANS:

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

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

$$x = 4$$

Plot1 Plot2 Plot3
 $\sqrt{Y_1} = 1/16X + 1/4$
 $\sqrt{Y_2} = 1/2$
 $\sqrt{Y_3} =$
 $\sqrt{Y_4} =$
 $\sqrt{Y_5} =$
 $\sqrt{Y_6} =$
 $\sqrt{Y_7} =$



REF: 010636a

15 ANS:

7

REF: 069405siii

16 ANS:
3

REF: 069803siii

17 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