

Examples:

$$\frac{24}{1} \left[\frac{2}{3}x - \frac{5}{8} = 26 \right]$$

$$\frac{24}{1} \cdot \frac{2}{3} = \frac{48}{3} = 16$$

$$\frac{24}{1} \cdot \frac{5}{8} = \frac{120}{8} = 15$$

$$24 \cdot 26 = 624$$

$$16x - 15 = 624$$

$$+15 \quad +15$$

$$16x = 639$$

$$x = 39.94$$

LCM: 24

3: 3, 6, 9, 12, 15, 18, 21, 24

8: 8, 16, 24

$$\frac{8}{1} \left[\frac{x}{4} + \frac{1}{2} = \frac{5}{8} \right]$$

$$\frac{8}{1} \cdot \frac{x}{4} = \frac{8x}{4} = 2x$$

$$\frac{8}{1} \cdot \frac{1}{2} = \frac{8}{2} = 4$$

$$\frac{8}{1} \cdot \frac{5}{8} = \frac{40}{8} = 5$$

$$2x + 4 = 5$$

$$-4 \quad -4$$

$$2x = 1$$

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

LCM: 8

4: 4, 8, 12, 16

2: 2, 4, 6, 8

8: 8, 16

Clearing Fractions

Example: $\frac{5}{7}x + \frac{1}{7} = 3$

STEP 1

- Find the LCM of denominators

STEP 2

- Multiply EVERY term in the equation by the LCM

STEP 3

- Solve equation

Examples: , ...

1) $5 \cdot \left[-\frac{1}{5}x - 2 = 4 \right]$

LCM = 5

$$\frac{5}{1} \cdot -\frac{1}{5} = -\frac{5}{5} = -1x$$

$$5 \cdot 2 = 10$$

$$5 \cdot 4 = 20$$

$$-1x - 10 = 20$$

$$+10 \quad +10$$

$$-1x = 30$$

$$x = -30$$

2) $10 \cdot \left[\frac{2}{5}x - 3 = \frac{1}{2} \right]$

LCM: 10

2: 2, 4, 6, 8, 10

5: 5, 10

$$\frac{10}{1} \cdot \frac{2}{5} = \frac{20}{5} = 4x$$

$$10 \cdot (-3) = -30$$

$$\frac{10}{1} \cdot \frac{1}{2} = \frac{10}{2} = 5$$

$$4x - 30 = 5$$

$$+30 \quad +30$$

$$4x = 35$$

$$x = 8.75$$

Clearing Fractions

$$\text{Example: } \frac{5}{7}x + \frac{1}{7} = 3$$

multiples:

multiply by whole #'s
to get multiples.

$$2: 2, 4, 6, 8, 10 \dots$$

$$7: 7, 14, 21, 28 \dots$$

$$7: 7, 14, 21, 28 \dots$$

$$\text{LCM} = 7$$

$$\frac{7}{1} \left[\frac{5}{7}x + \frac{1}{7} = 3 \right]$$

$$5x + 1 = 21$$

$$5x + 1 = 21$$

$$-1 \quad -1$$

$$\frac{5x}{5} = \frac{20}{5}$$

$$x = 4$$

Examples: , ...

$$1) 5 \left[-\frac{1}{5}x - 2 = 4 \right]$$

$$\text{LCM} = 5$$

$$\frac{5}{1} \cdot \frac{-1}{5} = \frac{-5}{5} = -1x$$

$$-1x - 10 = 20$$

$$5 \cdot 2 = 10$$

$$+10 \quad +10$$

$$5 \cdot 4 = 20$$

$$-1x = 30$$

$$x = -30$$

$$2) 10 \left[\frac{2}{5}x - 3 = \frac{1}{2} \right]$$

$$\text{LCM} = 10$$

$$\frac{10}{1} \cdot \frac{2}{5} = \frac{20}{5} = 4x$$

$$2: 2, 4, 6, 8, 10$$

$$5: 5, 10$$

$$10 \cdot (-3) = -30$$

$$4x - 30 = 5$$

$$\frac{10}{1} \cdot \frac{1}{2} = \frac{10}{2} = 5$$

$$+30 \quad +30$$

$$4x = 35$$

$$x = 8.75$$