Solving for x with Fractions

Here's an example of how to do it:

$$\frac{1}{3}x + \frac{1}{4} = 7$$

1ˢᵗ Find the Least Common Multiple of the Denominators

Your 2 Denominators:	Multiply by 2	Multiply by 3	Multiply by 4
3	6	9	12
4	8	12	

-Multiply them out until you find one that matches.

-3 and 4 share a LCM of 12.

-So we multiply the entire equation by 12

$$12\left(\frac{1}{3}x\right) + 12\left(\frac{1}{4}\right) = 12(7)$$

We multiply out the 12 and each number/fraction to get:

$$\frac{12}{3}x + \frac{12}{4} = 84$$

We then divide each fraction…

12 ÷ 3 = 4 and 12 ÷ 4 = 3

4 x + 3 = 84

Last we solve for x…

$$4x + 3 = 84$$ -So first we want to get rid of the constant, to do so

$$\underline{-3 \quad -3}$$ we must do the opposite of addition, which is subtraction

$$\underline{4x} = \underline{81}$$ -Then we want to get rid of the constant in front of the x

$$4 \qquad 4$$ because we want the x by itself. So we do the opposite of

multiplication, which is division, and we get a fraction.

$$\boxed{x = \frac{81}{4}}$$ -And we want to keep it in fraction form.