Equations With Fractions

Lesson 4-6

Remember the Process:

- Isolate the variable
- Perform the inverse operation on the side with the variable.
- Perform the same operation on the other side of the equal sign.

Example:

$$
\begin{array}{rcr}
y + 3 & = & 11 \\
- 3 & & - 3 \\
\hline
y & = & 8
\end{array}
$$

Now with fractions:

$$b - \frac{2}{3} = \frac{1}{9} \xrightarrow{\times 1} \frac{1}{9}$$

$$+\frac{2}{3} \quad +\frac{2}{3} \xrightarrow{\times 3} \frac{6}{9}$$

$$b = \frac{7}{9}$$

Now With Mixed Numbers:

$$c + 5\frac{4}{9} = 11\frac{5}{6} \xrightarrow{\times 3} 11\frac{15}{18}$$

$$- \quad 5\frac{4}{9} \quad -5\frac{4}{9} \xrightarrow{\times 2} 5\frac{8}{18}$$

$$c = 6\frac{7}{18}$$

Check: Substitute the answer in the original equation.

$$c + 5\frac{4}{9} = 11\frac{5}{6}$$

$$6\frac{7}{18} + 5\frac{4}{9} = 11\frac{5}{6}$$

$$6\frac{7}{18} + 5\frac{8}{18} = 11\frac{5}{6}$$

$$11\frac{15}{18} = 11\frac{5}{6}$$

Homework Time