

**Example 4:** Add the following fractions:

$$\frac{5}{8} + \frac{7}{24}$$

**Solution:**

$$\frac{5}{8} + \frac{7}{24}$$

Rewrite the fractions to start the solution.

$$\begin{array}{r|l} 8 & 8, 16, 24, 32 \\ \hline 24 & 24 \end{array}$$

Least common denominator (*lcd*) = 24

Find the *lcd* of 8 and 24 as shown above. Now change both of the denominators to 24. Notice, the denominator of the second fraction is already 24, so you need not to change this. Just multiply the numerator and denominator of the first fraction by 3 to have its denominator equal to 24. Keep in mind our goal is to change the denominators to same as *lcd*, but don't forget to multiply numerator with the same number to keep the value of fraction same (change to an equivalent fraction).

$$= \frac{5 \times 3}{8 \times 3} + \frac{7}{24}$$

$$= \frac{15}{24} + \frac{7}{24}$$

Once the denominators are same, add the numerators.

$$= \frac{\cancel{22} 11}{\cancel{24} 12}$$

The resulting fraction is not in its lowest terms, as 22 and 24 have 2 as their common factor. So, cut down 22 and 24 by 2.

$$= \frac{11}{12}$$