

Subtracting Mixed Fractions and Borrowing

(Different Denominator Work)

Example:

$$\begin{array}{r} \textcircled{A} \quad 5 \frac{2}{5} \\ - 3 \frac{7}{10} \\ \hline \end{array} \quad \textcircled{B} \quad 5 \frac{2}{5} \times 2 \quad \frac{4}{10} \\ - 3 \frac{7}{10} \quad \frac{7}{10} \\ \hline$$

A) When the denominators of the fraction you are subtracting are different, you must find the lowest common denominator. Using the example, you must find the lowest common denominator of 5 and 10. The lowest common denominator or least common multiple is 10. We find the LCM by counting the multiples of both denominators.

5 - 5, 10, 15, 20 10 - 10, 20, 30 The LCM of 5 and 10 is 10!

B) After you find your LCM, rewrite both fractions. Because one of the had the LCM for a denominator, you simply copy that fraction over. The denominator of five has to be turned into the LCM. Because you have to multiply the denominator of 5 by 2 to get 10, you also have to increase the denominator by the same factor. Two fifths turns into four tenths.

c) In the example, you can not take 7 away from 4 so you must borrow from the whole number. Because you are working with tenths, borrow one whole in the form of ten tenths. $\frac{10}{10}$ Add to the fraction that is too small.

d) The top fraction is now large enough to be subtracted from!

$$\textcircled{C} \quad 5 \frac{4}{10} + \frac{10}{10} \\ - 3 \frac{7}{10} \\ \hline$$

$$\textcircled{D} \quad 4 \frac{14}{10} \\ - 3 \frac{7}{10} \\ \hline$$

$$\textcircled{1} \frac{7}{10}$$

$$1) \quad 16 \frac{1}{2} \\ - 5 \frac{4}{7} \\ \hline$$

$$2) \quad 12 \frac{1}{6} \\ - 9 \frac{3}{4} \\ \hline$$

$$3) \quad 14 \frac{4}{9} \\ - 11 \frac{7}{18} \\ \hline$$

$$4) \quad 4 \frac{4}{5} \\ - 3 \frac{2}{10} \\ \hline$$

$$5) \quad 19 \frac{1}{6} \\ - 6 \frac{4}{9} \\ \hline$$

$$6) \quad 32 \frac{1}{3} \\ - 24 \frac{1}{5} \\ \hline$$

$$7) \quad 24 \frac{3}{16} \\ - 16 \frac{1}{4} \\ \hline$$

$$8) \quad 9 \frac{3}{6} \\ - 6 \frac{2}{3} \\ \hline$$

$$9) \quad 64 \frac{1}{3} \\ - 45 \frac{4}{9} \\ \hline$$

$$10) \quad 32 \frac{1}{6} \\ - 10 \frac{2}{12} \\ \hline$$

$$11) \quad 86 \frac{3}{8} \\ - 83 \frac{5}{16} \\ \hline$$

$$12) \quad 4 \frac{1}{6} \\ - 2 \frac{5}{24} \\ \hline$$

$$\begin{array}{r} 13) \quad 64 \frac{2}{9} \\ - 55 \frac{4}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 14) \quad 12 \frac{6}{7} \\ - 6 \frac{2}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 15) \quad 27 \frac{2}{8} \\ - 14 \frac{5}{24} \\ \hline \end{array}$$

$$\begin{array}{r} 16) \quad 41 \frac{4}{8} \\ - 40 \frac{3}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 17) \quad 24 \frac{2}{8} \\ - 16 \frac{4}{16} \\ \hline \end{array}$$

$$\begin{array}{r} 18) \quad 62 \frac{1}{7} \\ - 23 \frac{1}{2} \\ \hline \end{array}$$

$$\begin{array}{r} 19) \quad 44 \frac{1}{4} \\ - 13 \frac{3}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 20) \quad 4 \frac{3}{4} \\ - 2 \frac{4}{16} \\ \hline \end{array}$$

$$\begin{array}{r} 21) \quad 38 \frac{5}{12} \\ - 26 \frac{1}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 22) \quad 12 \frac{2}{7} \\ - 7 \frac{2}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 23) \quad 16 \frac{3}{9} \\ - 10 \frac{1}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 24) \quad 64 \frac{7}{12} \\ - 13 \frac{4}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 25) \quad 14 \frac{1}{3} \\ - 6 \frac{3}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 26) \quad 26 \frac{2}{39} \\ - 22 \frac{3}{13} \\ \hline \end{array}$$

$$\begin{array}{r} 27) \quad 62 \frac{11}{40} \\ - 41 \frac{2}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 28) \quad 29 \frac{7}{6} \\ - 8 \frac{15}{18} \\ \hline \end{array}$$