

Example 1: Subtract the following mixed numbers:

$$9\frac{3}{4} - 7\frac{5}{6}$$

Solution:

$$9\frac{3}{4} - 7\frac{5}{6}$$

lcd for 4 and 6 = 12, so change both denominators to 12.

$$= 9\frac{3 \times 3}{4 \times 3} - 7\frac{5 \times 2}{6 \times 2}$$

Once the denominators are same, subtract the whole numbers to get new whole number and numerators to get new numerator to get the answering mixed number.

$$= 9\frac{9}{12} - 7\frac{10}{12}$$

But the problem is that we can subtract the whole numbers (that is $9 - 7 = 2$), but we can't subtract the numerators in the given order (that is we can't do $9 - 10$ here). So use your skill you learned on previous page; in the first mixed number make the numerator larger by borrowing 1 from its whole number 9.

$$= 8\frac{21}{12} - 7\frac{10}{12}$$

$$= 1\frac{11}{12}$$

Once the first numerator is larger than the second one, subtract them to get the numerator for the answer, subtract the whole numbers as well to get the whole number for the answer, denominators stays the same as usual.

Example 2: Subtract the following mixed numbers:

a) $1\frac{1}{4} - \frac{20}{16}$

$$= 1\frac{1 \times 4}{4 \times 4} - \frac{20}{16}$$

$$= 1\frac{4}{16} - \frac{20}{16}$$

Change $1\frac{4}{16}$ to $\frac{20}{16}$

$$= \frac{20}{16} - \frac{20}{16} = \frac{0}{16} = 0$$

b) $4\frac{3}{9} - 3\frac{3}{4}$

lcd for 9 and 4 = 36

$$= 4\frac{3 \times 4}{9 \times 4} - 3\frac{3 \times 9}{4 \times 9}$$

$$= 4\frac{12}{36} - 3\frac{27}{36}$$

$$= 3\frac{48}{36} - 3\frac{27}{36}$$

$$= \frac{21}{36} - \frac{7}{36} = \frac{14}{36}$$

Reduce 21 and 36 by 3 (their gcf).