

Subtracting Fractions

Similar to adding fractions, fractions must have a common denominator (the bottom numbers must be the same) before being subtracted.

There are three steps to subtracting fractions:

1. Ensure that the bottom numbers (denominators) are the same. If they are not, change them so that they are the same (they have a common denominator).
2. Once the denominators are the same, subtract the top numbers (numerators) and place the result over the common denominator.
3. Simplify the fraction (if possible).

Example 1

Now, let's work through the example below. The questions below will guide you through the process.

Subtract and simplify $2\frac{1}{2} - \frac{2}{3}$

First, both numbers must be put in fraction form. In the simplifying fractions section we learned

that $2\frac{1}{2} = \frac{5}{2}$

Thus, we are subtracting $\frac{5}{2} - \frac{2}{3}$

Step 1. Are the denominators the same?

Yes

No

The correct answer is: No.

The denominators are not the same.

Is one of the denominators multiple of the other?

Yes

No

The correct answer is: No.

The denominators are not multiple of each other.

Select the common denominator?

7

6

4

11

The correct answer is:6

6 is the common denominator and it is obtained by multiplying the two denominators: $3 \times 2 = 6$.

Next we need to expand both fractions to have a denominator of 6. Expand both fractions by multiplying them and click done when you are ready. Enter your results in the appropriate boxes.

5

x

2

x

2

x

3

x

The expanded fractions are $\frac{15}{6}$
and $\frac{4}{6}$

Now subtract the expanded fractions

$$= \frac{15}{6} - \frac{4}{6}$$

The correct answer is $\frac{11}{6}$

Can $\frac{11}{6}$
be simplified?

Yes

No

The correct answer is: Yes.

Because the top number is larger than the bottom number, the fraction can be simplified to a whole number with a fraction remainder.

$$\frac{11}{6} - \frac{6}{6} = \frac{5}{6}$$

$\frac{5}{6}$
can be simplified to

$$1\frac{5}{6}$$

Practice

Subtract and simplify $\frac{4}{5} - \frac{3}{4}$

$$\frac{4}{6}$$

$$\frac{1}{20}$$

$$\frac{7}{20}$$

$$\frac{1}{9}$$

Select the correct answer.