

Adding and Subtracting Fractions with different denominators

$$\frac{2}{9} + \frac{2}{3} =$$

Step one – Convert

Since the denominators are NOT the same, the parts are NOT the same size. Use equivalent fractions to create a common denominator of 9. Multiply the denominator by 3. Whatever you do to the denominator, you also do to the numerator. So multiply the numerator by 3 also.

$$\frac{2 \times 3}{3 \times 3} = \frac{6}{9}$$

$$\frac{2}{9} + \frac{6}{9} =$$

Step two – Add or subtract

Add the numerators to see how many parts altogether. $2 + 6 = 8$. This is 2 ninths add 6 ninths. The total is still ninths. The answer is 8 ninths.

$$\frac{2}{9} + \frac{2}{3} = \frac{8}{9}$$

Step three – Simplify if possible

Simplify the final resulting fraction if possible. For example, if your answer was 8 tenths. We could simplify to 4 fifths.

Example with Subtraction

$$\frac{5}{6} - \frac{1}{2}$$

Step One - Use the common denominator of 6. What do we multiply 2 by to achieve 6? (3) Whatever we do to the denominator we must also do to the numerator. There one half can be converted to 3 sixths.

$$\frac{1 \times 3}{2 \times 3} = \frac{3}{6}$$

Step two – Now that the denominators are the same, the parts are the same size. We can simply do $5 - 3$ to see how many parts are left.

$$\frac{5}{6} - \frac{3}{6} = \frac{2}{6}$$



Step three – Two sixths can be simplified to one third as an equivalent fraction.

$$1 \frac{1}{3}$$