

Adding Fractions 2

Remember: **numerator** $\frac{2}{5}$ 2 = numerator
 denominator 5 5 = denominator

When adding fractions, if the **denominator** is the **different** for the fractions we must first find a **common denominator**. We do this by looking at the **multiples** of each **denominator**.

Example: $\frac{2}{5} + \frac{1}{7}$ Try setting the two fractions out underneath one another and find the **common multiple**

Step 1 $\frac{2}{5}$ multiples = 5, 10, 15, 20, 25, 30, 35, 40, 45, 50

 $\frac{1}{7}$ multiples = 7, 14, 21, 28, 35, 42, 49, 56, 63, 70

Since 35 is the **common multiple**, both denominators must be converted into 35ths! What **factor** must the **denominator** be multiplied by to make 35?
Multiply the **numerator** by the same **factor**

$$\begin{array}{r} \text{Step 2} \\ \frac{2}{5} \quad \times \quad 7 \quad = \quad \frac{14}{35} \\ \frac{1}{7} \quad \times \quad 5 \quad = \quad \frac{5}{35} \end{array}$$

$$\frac{1}{7} \quad \times \quad 5 \quad = \quad \frac{5}{35}$$

Now that the **denominators** are the same, we can add the fractions in the usual way. But remember to **simplify** the answer where possible! In this example no **simplification** is possible.

$$\text{Step 3} \quad \frac{14}{35} + \frac{5}{35} = \frac{19}{35}$$

Now try these using the same three steps:

1. $\frac{6}{15} + \frac{1}{3} =$

2. $\frac{3}{5} + \frac{1}{20} =$

3. $\frac{5}{8} + \frac{1}{6} =$

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

5. $\frac{1}{10} + \frac{4}{5} =$

6. $\frac{2}{7} + \frac{2}{3} =$

7. $\frac{3}{8} + \frac{3}{12} =$

8. $\frac{7}{20} + \frac{1}{5} =$

9. $\frac{3}{8} + \frac{1}{5} =$

Now try these using the same three steps:

ANSWERS

$$1. \quad \frac{6}{15} + \frac{1}{3} = \frac{4+5}{15+15} = \frac{7}{15}$$

$$2. \quad \frac{3}{5} + \frac{1}{20} = \frac{12+1}{20+20} = \frac{13}{20}$$

$$3. \quad \frac{5}{8} + \frac{1}{6} = \frac{15+4}{24+24} = \frac{19}{24}$$

$$4. \quad \frac{2}{9} + \frac{2}{6} = \frac{4+6}{18+18} = \frac{10}{18} \text{ simplest form} = \frac{5}{9}$$

$$5. \quad \frac{1}{10} + \frac{4}{5} = \frac{1+8}{10+10} = \frac{9}{10}$$

$$6. \quad \frac{2}{7} + \frac{2}{3} = \frac{6+14}{21+21} = \frac{20}{21}$$

$$7. \quad \frac{3}{8} + \frac{3}{12} = \frac{10+1}{12+12} = \frac{11}{12}$$

$$8. \quad \frac{7}{20} + \frac{1}{5} = \frac{7+4}{20+20} = \frac{11}{20}$$

$$9. \quad \frac{3}{8} + \frac{1}{5} = \frac{15+8}{40+40} = \frac{23}{40}$$