

# Fraction Addition

1 Rewrite each pair of fractions so that they have the same denominator as each other.

(a)  $\frac{1}{5}$      $\frac{1}{10}$

(b)  $\frac{1}{5}$      $\frac{1}{3}$

(c)  $\frac{2}{5}$      $\frac{3}{4}$

(d)  $\frac{7}{3}$      $\frac{7}{8}$

(e)  $\frac{1}{8}$     1

(f)  $\frac{1}{8}$     2

2 Calculate the following, simplifying your answer fully:

(a)  $\frac{3}{5} + \frac{2}{5}$                       (b)  $\frac{2}{3} + \frac{1}{6}$

(c)  $\frac{3}{4} + \frac{4}{5}$                       (d)  $\frac{5}{4} + 3$

(e)  $1\frac{1}{3} + 1\frac{1}{3}$                       (f)  $1\frac{1}{3} + 2\frac{1}{4}$

3 Below is an addition grid. Circle the answers which are incorrect.

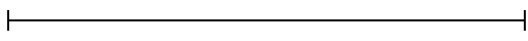
+	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{5}$
$\frac{1}{3}$	$\frac{2}{3}$	$\frac{2}{12}$	$\frac{8}{15}$
$\frac{1}{4}$	$\frac{7}{12}$	$\frac{1}{2}$	$\frac{2}{9}$
$\frac{1}{5}$	$\frac{3}{15}$	$\frac{9}{20}$	$\frac{2}{10}$

4 I win some prize money in a competition.

I give  $\frac{2}{7}$  of my money to my sister and give  $\frac{1}{3}$  of my money to my brother. What fraction of the money do I have left?

5 Use this empty number line to show why the following calculation is correct.

$$\frac{1}{2} + \frac{1}{3} = \frac{5}{6}$$



6 Investigate the following sequence of calculations.

$$\frac{1}{2} + \frac{1}{4}$$

$$\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$$

$$\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16}$$

$$\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32}$$

What do you notice about your answers?

Write down the answer to the calculation below, without working:

$$\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} \dots + \frac{1}{1024}$$

7 Create 3 pairs of different fractions which sum to  $\frac{3}{5}$

$$\square + \square = \frac{3}{5}$$

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8 Redo this question using a more efficient strategy.

$$\begin{aligned} \frac{3}{5} + \frac{3}{10} &= \frac{30}{50} + \frac{15}{50} \\ &= \frac{45}{50} \\ &= \frac{9}{10} \end{aligned} \qquad \begin{aligned} \frac{3}{5} + \frac{3}{10} &= \\ &= \end{aligned}$$