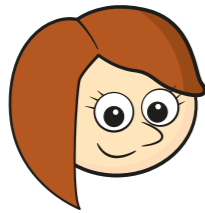# Divide any pair of fractions

1 Complete the calculations.

a) $6 \div \frac{1}{3} =$ ☐

b) $6 \div \frac{1}{4} =$ ☐

2

> To divide a number by a fraction you multiply by its reciprocal.

$$3 \div \frac{4}{5} = 3 \times \frac{5}{4} = \frac{15}{4} = 3\frac{3}{4}$$

$$\frac{5}{8} \div \frac{1}{4} = \frac{5}{8} \times \frac{4}{1} = \frac{20}{8} = \frac{5}{2} = 2\frac{1}{2}$$

Use Rosie's method to complete the calculations.

a) $\frac{2}{3} \div \frac{1}{6} =$ ☐

e) $\frac{3}{5} \div \frac{3}{4} =$ ☐

b) $\frac{1}{6} \div \frac{2}{3} =$ ☐

f) $\frac{3}{4} \div \frac{3}{5} =$ ☐

c) $5 \div \frac{3}{10} =$ ☐

g) $\frac{11}{16} \div \frac{3}{4} =$ ☐

d) $\frac{3}{10} \div 5 =$ ☐

h) $\frac{3}{4} \div \frac{11}{16} =$ ☐

3

> To divide a pair of fractions, convert them so they have the same denominator and then divide the numerators.
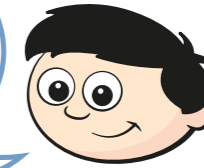
$$\frac{5}{8} \div \frac{1}{4} = \frac{5}{8} \div \frac{2}{8} = \frac{5}{2} = 2\frac{1}{2}$$

$$3 \div \frac{4}{5} = \frac{3}{1} \div \frac{4}{5} = \frac{15}{5} \div \frac{4}{5} = \frac{15}{4} = 3\frac{3}{4}$$

Use Dexter's method to work out:

a) $\frac{2}{3} \div \frac{1}{6} =$ ☐

e) $\frac{3}{5} \div \frac{3}{4} =$ ☐

b) $\frac{1}{6} \div \frac{2}{3} =$ ☐

f) $\frac{3}{4} \div \frac{3}{5} =$ ☐

c) $5 \div \frac{3}{10} =$ ☐

g) $\frac{11}{16} \div \frac{3}{4} =$ ☐

d) $\frac{3}{10} \div 5 =$ ☐

h) $\frac{3}{4} \div \frac{11}{16} =$ ☐

4 Compare your answers to questions 2 and 3

Which method did you prefer using, and why?

Discuss it with a partner.

5 Look at the method shown to work out 4 ÷ 0.6

$$4 \div 0.6 = 4 \div \frac{3}{5} = 4 \times \frac{5}{3} = \frac{20}{3} = 6\frac{2}{3}$$

Use this method to complete the calculations.

a) 3 ÷ 0.2 = ☐   **b)** 6 ÷ 0.4 = ☐

6 Convert both decimals into fractions to complete the calculations.

a) 0.75 ÷ 0.25 = ☐ ÷ ☐ = ☐

b) 0.5 ÷ 0.125 = ☐ ÷ ☐ = ☐

c) 0.6 ÷ 0.25 = ☐ ÷ ☐ = ☐

d) 0.9 ÷ 0.25 = ☐ ÷ ☐ = ☐

7 Circle the calculation in each set that gives a different answer.

a) $\frac{3}{4} \div \frac{2}{3}$ $\frac{3}{4} \times \frac{2}{3}$ $\frac{3}{4} \times \frac{3}{2}$

b) $\frac{4}{5} \div \frac{1}{3}$ $\frac{1}{3} \div \frac{4}{5}$ $\frac{5}{4} \times \frac{1}{3}$

c) $\frac{5}{8} \times \frac{2}{3}$ $\frac{2}{3} \times \frac{5}{8}$ $\frac{2}{3} \div \frac{5}{8}$ $\frac{5}{8} \div \frac{3}{2}$

8 Work out these values if $x = \frac{1}{2}$, $y = \frac{3}{4}$ and $z = \frac{4}{5}$

a) xy ☐

b) $\frac{x}{y}$ ☐

c) yz ☐

d) $\frac{y}{z}$ ☐

e) xyz ☐

f) $\frac{xy}{z}$ ☐