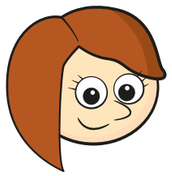
Divide any pair of fractions

1 Complete the calculations.

a) $6 \div \frac{1}{3} =$ 18

b) $6 \div \frac{1}{4} =$ 24

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) $\frac{2}{3} \div \frac{1}{6} =$ 4

e) $\frac{3}{5} \div \frac{3}{4} =$ $\frac{4}{5}$

b) $\frac{1}{6} \div \frac{2}{3} =$ $\frac{1}{4}$

f) $\frac{3}{4} \div \frac{3}{5} =$ $\frac{5}{4}$ $(=1\frac{1}{4})$

c) $5 \div \frac{3}{10} =$ $\frac{50}{3}$ $(=16\frac{2}{3})$

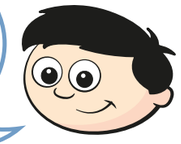
g) $\frac{11}{16} \div \frac{3}{4} =$ $\frac{11}{12}$

d) $\frac{3}{10} \div 5 =$ $\frac{3}{50}$

h) $\frac{3}{4} \div \frac{11}{16} =$ $\frac{12}{11}$ $=(1\frac{1}{11})$

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) $\frac{2}{3} \div \frac{1}{6} =$ 4

e) $\frac{3}{5} \div \frac{3}{4} =$ $\frac{12}{15}$ $(=\frac{4}{5})$

b) $\frac{1}{6} \div \frac{2}{3} =$ $\frac{1}{4}$

f) $\frac{3}{4} \div \frac{3}{5} =$ $\frac{15}{12}$ $(=1\frac{1}{4})$

c) $5 \div \frac{3}{10} =$ $\frac{50}{3}$ $(=16\frac{2}{3})$

g) $\frac{11}{16} \div \frac{3}{4} =$ $\frac{11}{12}$

d) $\frac{3}{10} \div 5 =$ $\frac{3}{50}$

h) $\frac{3}{4} \div \frac{11}{16} =$ $\frac{12}{11}$ $(=1\frac{1}{11})$

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 $4 \div 0.6$

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

Use this method to complete the calculations.

a) $3 \div 0.2 =$ 15

b) $6 \div 0.4 =$ 15

6 Convert both decimals into fractions to complete the calculations.

a) $0.75 \div 0.25 = \frac{3}{4} \div \frac{1}{4} = 3$

b) $0.5 \div 0.125 = \frac{1}{2} \div \frac{1}{8} = 4$

c) $0.6 \div 0.25 = \frac{3}{5} \div \frac{1}{4} = \frac{12}{5} \left(= 2\frac{2}{5}\right)$

d) $0.9 \div 0.25 = \frac{9}{10} \div \frac{1}{4} = \frac{18}{5} \left(= 3\frac{3}{5}\right)$

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

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

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

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

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

a) xy $\quad$ $\frac{3}{8}$

b) $\frac{x}{y}$ $\quad$ $\frac{2}{3}$

c) yz $\quad$ $\frac{3}{5}$

d) $\frac{y}{z}$ $\quad$ $\frac{15}{16}$

e) xyz $\quad$ $\frac{3}{10}$

f) $\frac{xy}{z}$ $\quad$ $\frac{15}{32}$