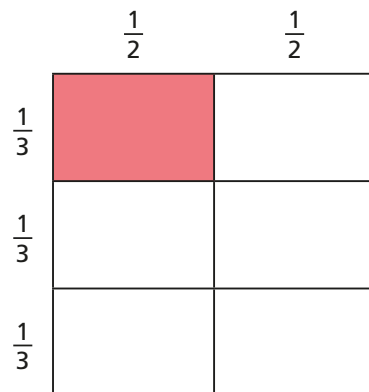# Multiply fractions by fractions

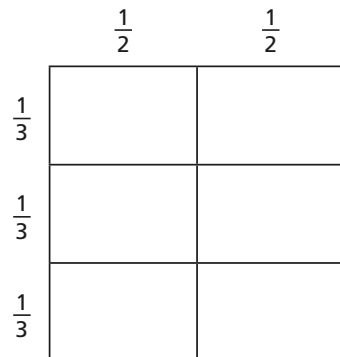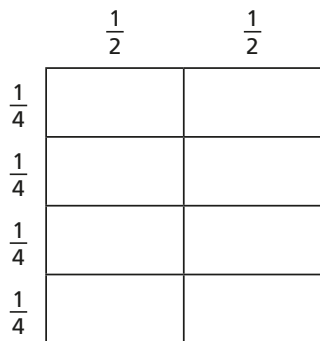**1** Dexter works out $\frac{1}{2} \times \frac{1}{3}$ using a grid method.

Explain how this shows $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

2 Shade the diagrams to show the fraction multiplications.

Complete the multiplications.

a) $\frac{1}{2} \times \frac{1}{4} = \boxed{}$

b) $\frac{1}{2} \times \frac{2}{3} = \boxed{}$

3 **a)** Use the grid method to show that $\frac{2}{3} \times \frac{3}{4}$ is equal to $\frac{6}{12}$

b) Mo says $\frac{2}{3} \times \frac{3}{4}$ is equal to $\frac{1}{2}$

   Is Mo correct?

   Explain your answer.

4 Complete the calculations.

a) $\frac{1}{4} \times \frac{1}{5}$ **d)** $\frac{1}{8} \times \frac{1}{9} \times \frac{1}{10}$ **g)** $\frac{5}{7} \times \frac{5}{8}$

b) $\frac{1}{5} \times \frac{1}{6}$ **e)** $\frac{3}{4} \times \frac{1}{5}$ **h)** $\frac{3}{8} \times \frac{2}{9} \times \frac{3}{10}$

c) $\frac{1}{7} \times \frac{1}{8}$ **f)** $\frac{2}{5} \times \frac{5}{6}$

5 Use the diagram to complete the calculations.

a) $\frac{1}{3}$ of $\frac{1}{4}$

b) $\frac{2}{3}$ of $\frac{3}{4}$

c) What do you notice about your answers?

   Talk to your partner.

3 **a)** Use the grid method show that $\frac{2}{3} \times \frac{3}{4}$ is equal to $\frac{6}{12}$

b) Mo says $\frac{2}{3} \times \frac{3}{4}$ is equal to $\frac{1}{2}$

Is Mo correct?

Explain your answer.

4 Complete the calculations.

a) $\frac{1}{4} \times \frac{1}{5}$ **d)** $\frac{1}{8} \times \frac{1}{9} \times \frac{1}{10}$ **g)** $\frac{5}{7} \times \frac{5}{8}$

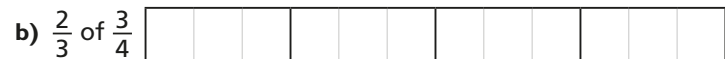**b)** $\frac{1}{5} \times \frac{1}{6}$ **e)** $\frac{3}{4} \times \frac{1}{5}$ **h)** $\frac{3}{8} \times \frac{2}{9} \times \frac{3}{10}$

c) $\frac{1}{7} \times \frac{1}{8}$ **f)** $\frac{2}{5} \times \frac{5}{6}$

5 Use the diagram to complete the calculations.

a) $\frac{1}{3}$ of $\frac{1}{4}$

b) $\frac{2}{3}$ of $\frac{3}{4}$

c) What do you notice about your answers?

Talk to your partner.

6 Fill in the missing numbers.

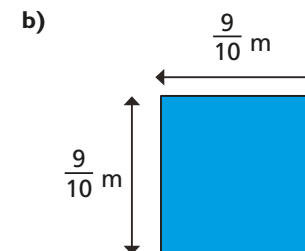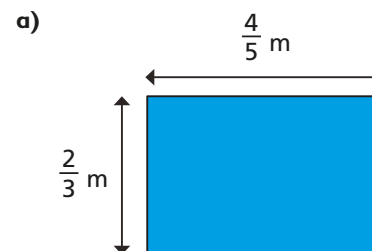**a)** $\frac{1}{10} = \frac{1}{2} \times \frac{1}{\square}$ **b)** $\frac{1}{5} \times \frac{\square}{3} = \frac{2}{15}$

7 Fill in the missing numbers.

a) $\frac{1}{10} = \frac{\square}{4} \times \frac{\square}{5}$ **b)** $\frac{1}{4} = \frac{\square}{4} \times \frac{\square}{5}$

8 Calculate the area of the shapes.

a)

$\frac{4}{5}$ m

$\frac{2}{3}$ m

b)

$\frac{9}{10}$ m

$\frac{9}{10}$ m

9 Work out the area of the shaded part.

$\frac{3}{7}$ m

$\frac{2}{6}$ m

$\frac{1}{10}$ m

$\frac{1}{10}$ m