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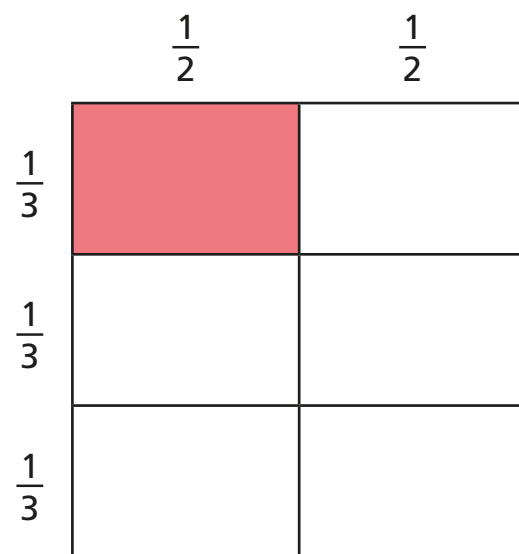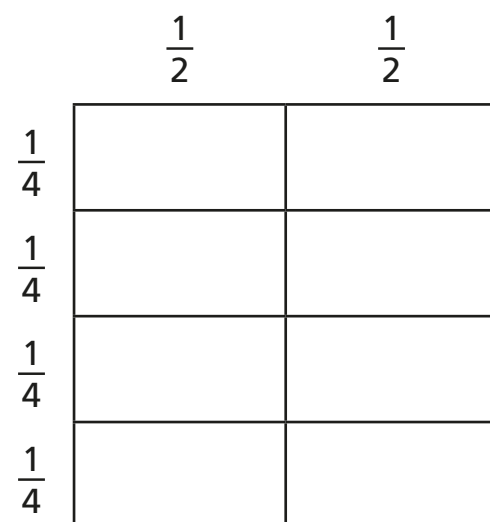
1 Dexter works out $\frac{1}{2} \times \frac{1}{3}$ using a grid method.
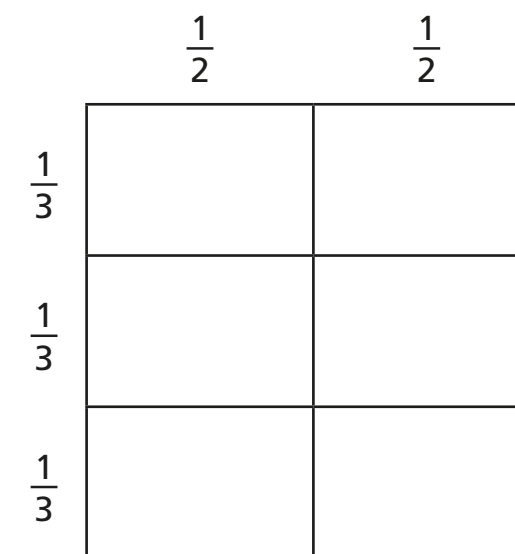
	$\frac{1}{2}$	$\frac{1}{2}$
$\frac{1}{3}$		
$\frac{1}{3}$		
$\frac{1}{3}$		

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

_____

_____

2 Shade the diagrams to show the fraction multiplications.
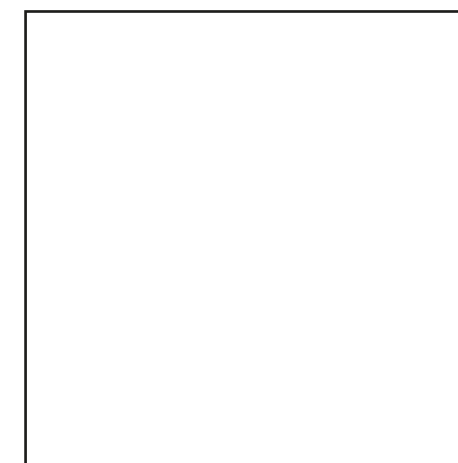
Complete the multiplications.

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

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

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

	$\frac{1}{2}$	$\frac{1}{2}$
$\frac{1}{3}$		
$\frac{1}{3}$		
$\frac{1}{3}$		

3 **a)** Divide the square 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) $\dfrac{1}{4} \times \dfrac{1}{5} = \boxed{}$

b) $\dfrac{1}{5} \times \dfrac{1}{6} = \boxed{}$

c) $\boxed{} = \dfrac{1}{7} \times \dfrac{1}{8}$

d) $\dfrac{1}{8} \times \dfrac{1}{9} \times \dfrac{1}{10} = \boxed{}$

e) $\dfrac{3}{4} \times \dfrac{1}{5} = \boxed{}$

f) $\dfrac{2}{5} \times \dfrac{5}{6} = \boxed{}$
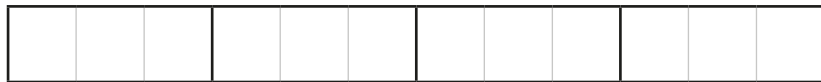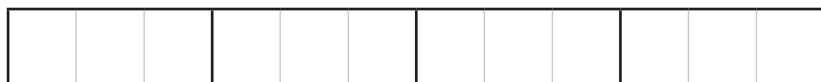
g) $\dfrac{5}{7} \times \dfrac{5}{8} = \boxed{}$

h) $\dfrac{3}{8} \times \dfrac{2}{9} \times \dfrac{3}{10} = \boxed{}$

5 Use the diagram to complete the calculations.

a) $\dfrac{1}{3}$ of $\dfrac{1}{4} = \boxed{}$

b) $\dfrac{2}{3}$ of $\dfrac{3}{4} = \boxed{}$

c) What do you notice about your answers?

Talk to your partner.

6 Fill in the missing numbers.

a) $\dfrac{1}{10} = \dfrac{1}{2} \times \dfrac{1}{\boxed{}}$

b) $\dfrac{1}{5} \times \dfrac{\boxed{}}{3} = \dfrac{2}{15}$

7 Fill in the missing numbers.

a) $\dfrac{1}{10} = \dfrac{\boxed{}}{4} \times \dfrac{\boxed{}}{5}$

b) $\dfrac{1}{4} = \dfrac{\boxed{}}{4} \times \dfrac{\boxed{}}{5}$

8 Calculate the area of the shapes.

a) $\frac{4}{5}$ m, $\frac{2}{3}$ m

Area = $\boxed{}$ m²

b) $\frac{9}{10}$ m, $\frac{9}{10}$ m
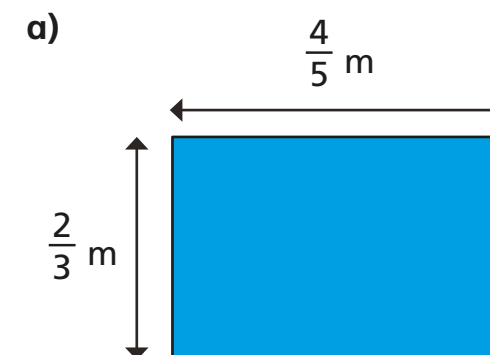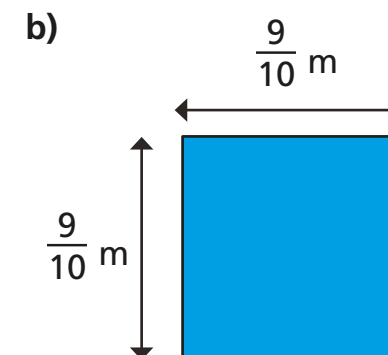
Area = $\boxed{}$ m²

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

$\boxed{}$

White Rose Maths