Fractions to decimals (1)

1 Complete the sentences.
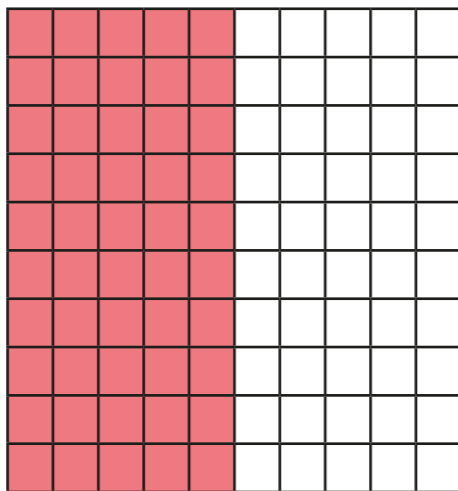
a)
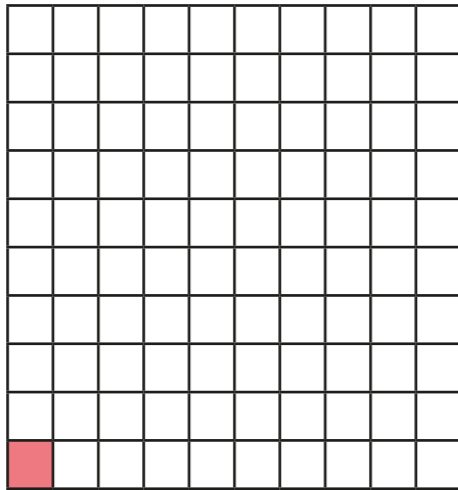
Each square represents $\dfrac{\boxed{1}}{100}$

$\dfrac{\boxed{1}}{100}$ of the whole square is shaded.
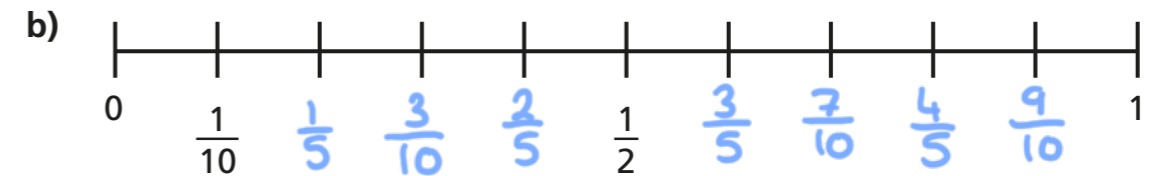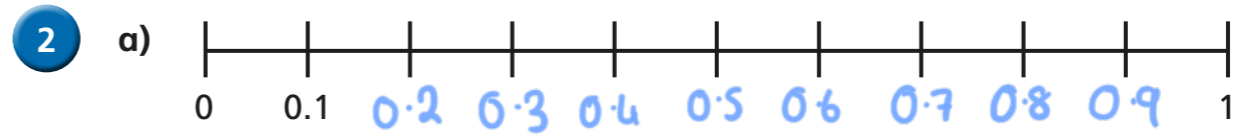
This is equivalent to $\boxed{0 \cdot 01}$ as a decimal.

b)

$\dfrac{\boxed{50}}{100}$ of the whole square is shaded.

This can be simplified to $\dfrac{\boxed{1}}{\boxed{2}}$

This is equivalent to $\boxed{0 \cdot 5}$ as a decimal.

2 **a)**

0   0.1   0·2 0·3 0·4   0·5 0·6   0·7 0·8   0·9   1

b)

0    $\frac{1}{10}$ $\frac{1}{5}$ $\frac{3}{10}$ $\frac{2}{5}$ $\frac{1}{2}$ $\frac{3}{5}$ $\frac{7}{10}$ $\frac{4}{5}$ $\frac{9}{10}$ 1

What is the same and what is different about the number lines?

3 To convert a fraction to a decimal, you can use equivalent fractions to make the denominator 100

$$\overset{\times 2}{\underset{\times 2}{\dfrac{12}{50} = \dfrac{24}{100}}} = 0.24$$
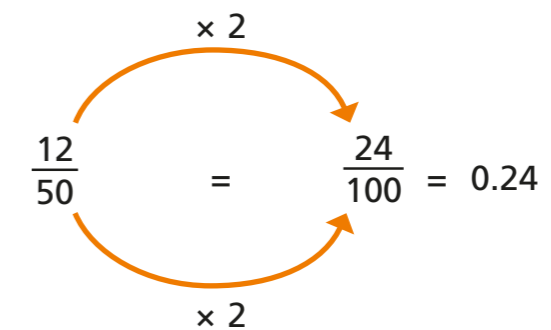
Use this method to find the equivalent decimals for the fractions.

a) $\dfrac{28}{50} = \dfrac{\boxed{56}}{100} = \boxed{0 \cdot 56}$

c) $\dfrac{9}{25} = \dfrac{\boxed{36}}{100} = \boxed{0 \cdot 36}$

b) $\dfrac{6}{20} = \dfrac{\boxed{30}}{100} = \boxed{0 \cdot 3}$

d) $\dfrac{24}{200} = \dfrac{\boxed{12}}{100} = \boxed{0 \cdot 12}$

4 Some fractions can be converted to have a denominator of 1,000 to find their decimal equivalent.

× 2

$$\frac{62}{500} \quad = \quad \frac{124}{1000} \quad = \quad 0.124$$

× 2

a) $\frac{27}{500} = \frac{54}{1000} = 0 \cdot 054$

b) $\frac{62}{250} = \frac{248}{1000} = 0 \cdot 248$

c) $\frac{51}{200} = \frac{255}{1000} = 0 \cdot 255$

d) $\frac{128}{2,000} = \frac{64}{1000} = 0 \cdot 064$

5 Convert the fractions to their decimal equivalents.

a) $\frac{1}{5} = 0 \cdot 2$ b) $\frac{1}{20} = 0 \cdot 05$

$\frac{1}{10} = 0 \cdot 1$ $\frac{2}{20} = 0 \cdot 1$

$\frac{1}{20} = 0 \cdot 05$ $\frac{3}{20} = 0 \cdot 15$
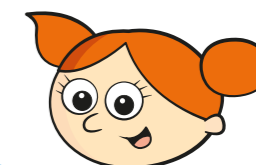
$\frac{1}{40} = 0 \cdot 025$ $\frac{6}{20} = 0 \cdot 3$

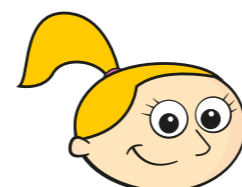**6** Tommy, Alex and Eva are working out the decimal equivalent of $\frac{60}{200}$

> You need to convert it to have a denominator of 100 to find the decimal equivalent.

Tommy

> I disagree. You need to convert it to have a denominator of 1,000

Alex

> Both of you are right!

Eva

Who do you agree with? ___Eva___

Explain your thinking.

Tommy's method: $\frac{60}{200} = \frac{30}{100} = 0 \cdot 30 = 0 \cdot 3$

Alex's method: $\frac{60}{200} = \frac{300}{1,000} = 0 \cdot 300 = 0 \cdot 3$

They get the same answer.

7 0.5 is equivalent to $\frac{1}{2}$, $\frac{5}{10}$, $\frac{50}{100}$

Are these the only fractions that are equivalent to 0.5?

How many fractions can you find?

Various answers.

Compare answers with a partner.