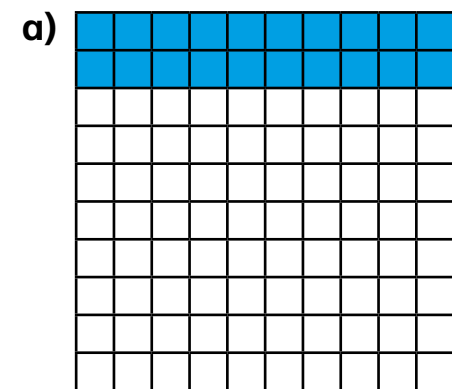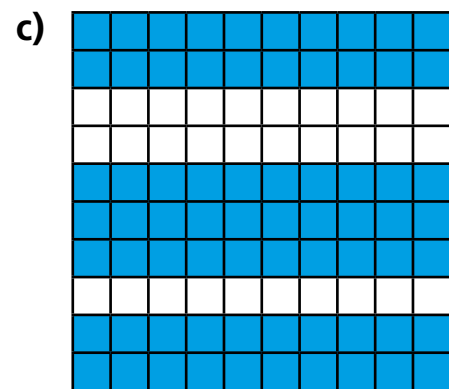# Recognise tenths and hundredths

1 The hundred square represents 1 whole.
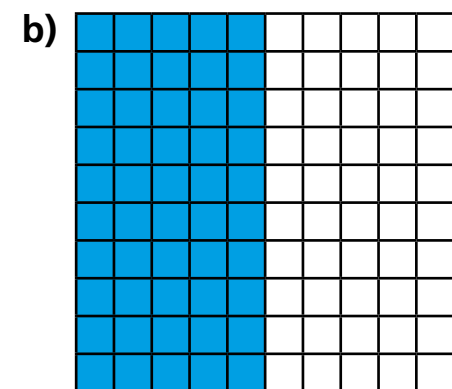
What fraction of each hundred square is shaded?

a)

$\dfrac{1}{5}$
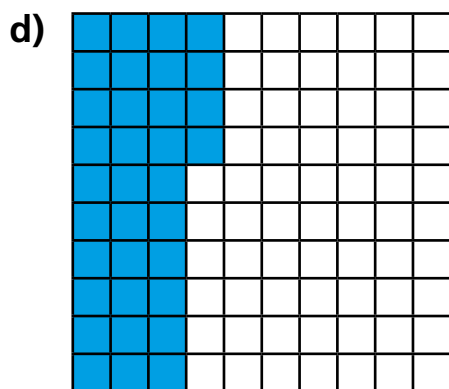
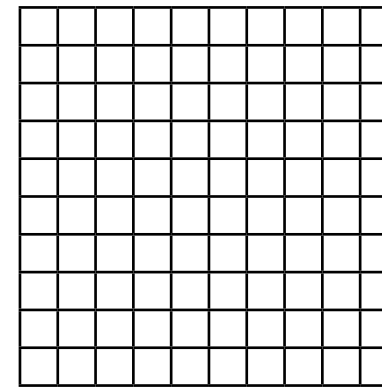**c)**

$\dfrac{7}{10}$

b)

$\dfrac{1}{2}$

d)

$\dfrac{17}{50}$

2 Here is a hundred square.

What fraction of the whole does each represent?

a) 4 full rows = $\dfrac{2}{5}$

b) 6 full columns = $\dfrac{3}{5}$

c) 13 squares = $\dfrac{13}{100}$

d) 2 full rows and 5 squares = $\dfrac{1}{4}$

e) 3 full columns and 8 squares = $\dfrac{19}{50}$
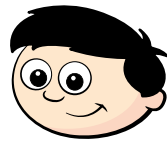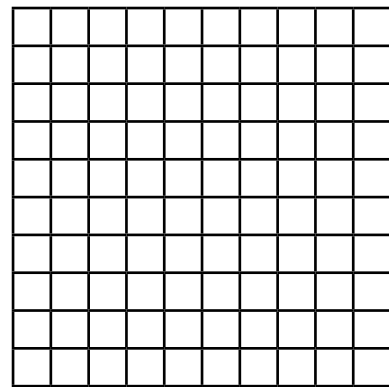
3 Complete the sentences.

a) 4 tenths is equivalent to $\boxed{40}$ hundredths.

b) 70 hundredths is equivalent to $\boxed{7}$ tenths.

c) 5 tenths is equivalent to $\boxed{50}$ hundredths or 1 <u>half</u>

4

One row is one tenth and one column is one tenth, so if I colour one row and one column on my hundred square I will have shown 2 tenths.
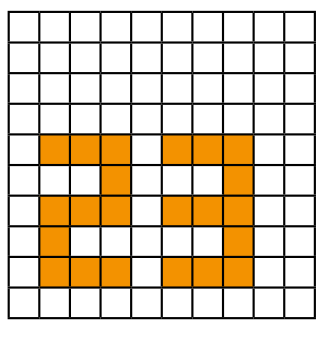
Is Dexter correct? __No__

Explain your answer.

You may use the hundred square to help you.

There would only be 19 squares shaded.

5 Tick the hundred squares with $\frac{23}{100}$ shaded.
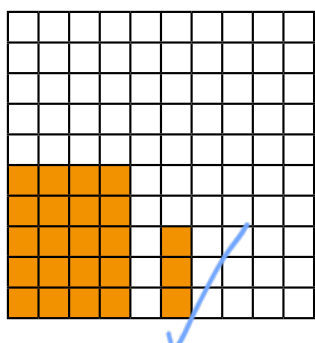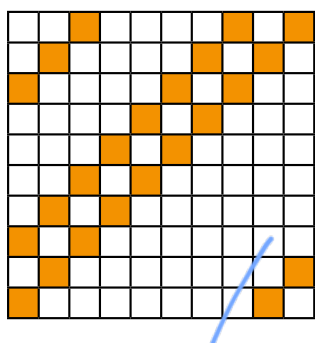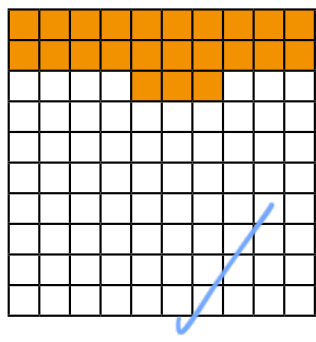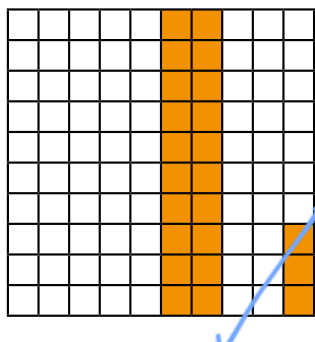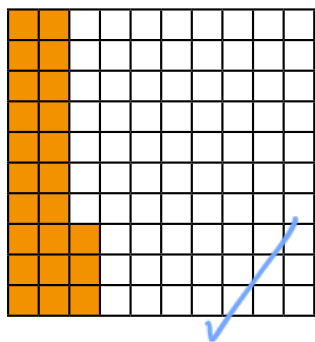
6 Complete the part-whole models.

a)

$\frac{23}{100}$

$\frac{2}{10}$ $\frac{3}{100}$

b)

$\frac{47}{100}$

$\frac{4}{10}$ $\frac{7}{100}$

c)

$\frac{39}{100}$

$\frac{3}{10}$ $\frac{9}{100}$

d)

$\frac{20}{100}$

$\frac{2}{10}$ $\frac{0}{100}$

7
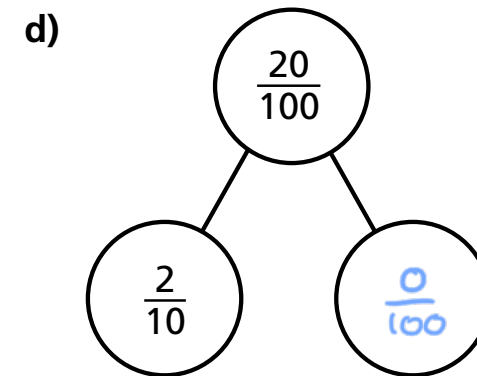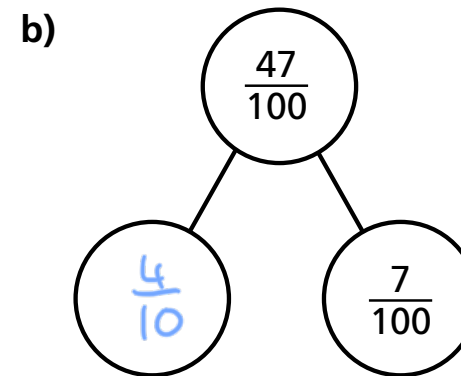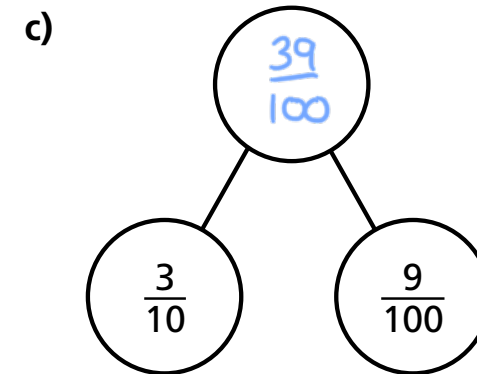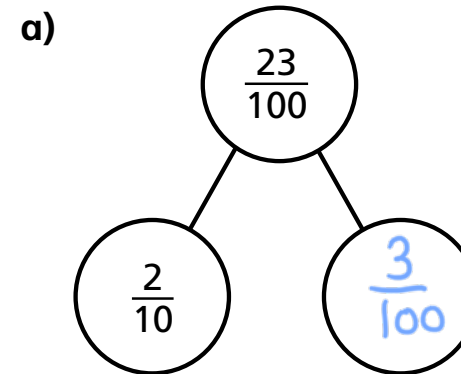
Annie: $\frac{73}{100} = \frac{7}{10} + \frac{3}{100}$

Ron: $\frac{73}{100} = \frac{6}{10} + \frac{13}{100}$

Who is correct? __Both__

How many ways can you partition $\frac{73}{100}$?

Equivalent fractions (1)

1 Shade the bar models to represent the equivalent fractions.

a)

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

$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

$$\frac{1}{2} = \frac{3}{6}$$

b)

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

$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

$$\frac{1}{2} = \frac{5}{10}$$

c)

$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

$$\frac{4}{5} = \frac{8}{10}$$

d)

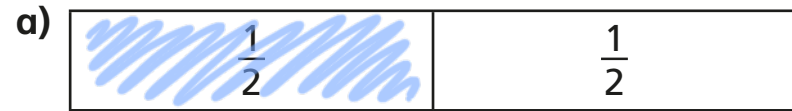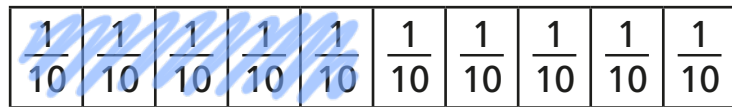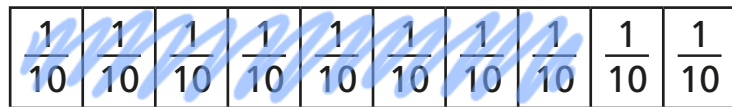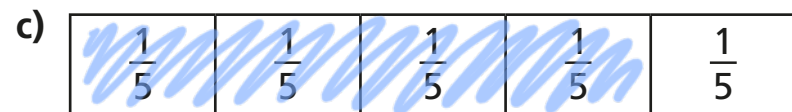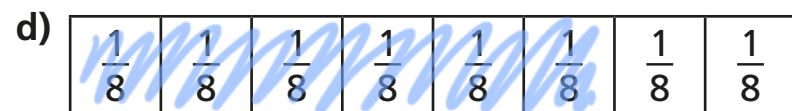| $\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

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

$$\frac{6}{8} = \frac{3}{4}$$

2 Use the fraction wall to complete the equivalent fractions.

$\frac{1}{2}$				$\frac{1}{2}$			
$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$	
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
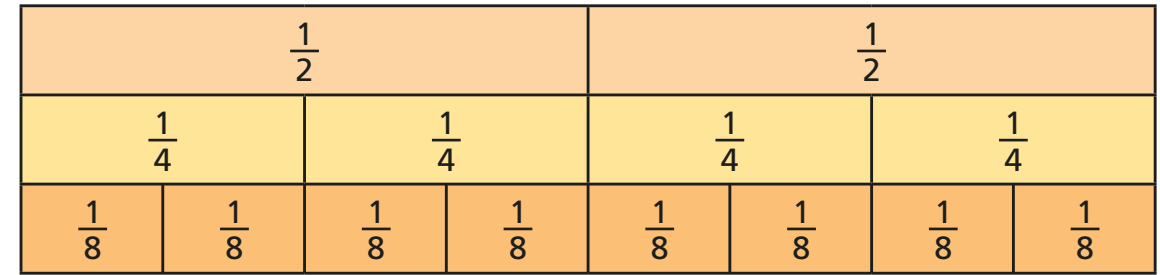
a) $\frac{1}{2} = \dfrac{\boxed{2}}{4}$

c) $\frac{2}{4} = \dfrac{4}{\boxed{8}}$

e) $\dfrac{\boxed{6}}{8} = \frac{3}{4}$

b) $\frac{1}{2} = \dfrac{\boxed{4}}{8}$

d) $\frac{2}{8} = \dfrac{\boxed{1}}{4}$

f) $\frac{2}{2} = \dfrac{\boxed{4}}{4} = \dfrac{\boxed{8}}{8}$

3 a) Label the fractions on the fraction wall.

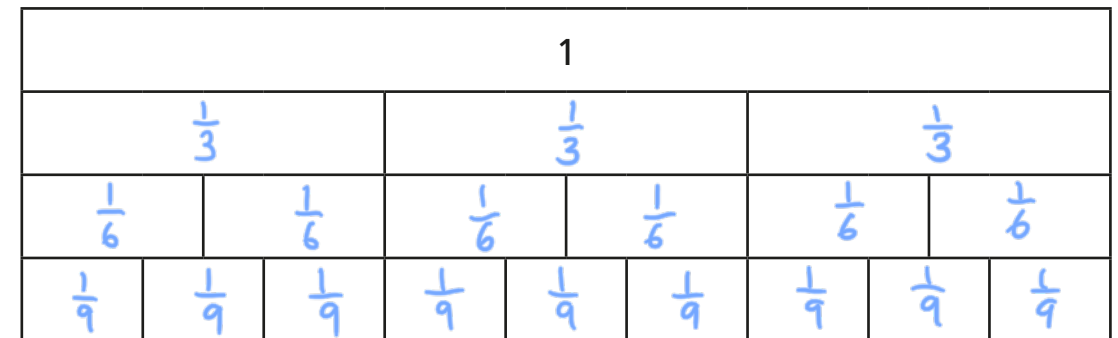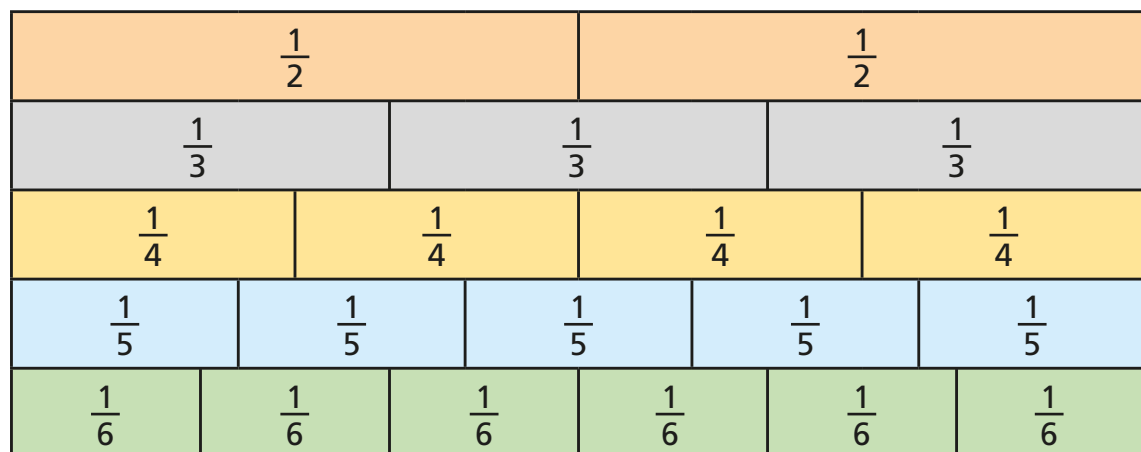| 1								
$\frac{1}{3}$			$\frac{1}{3}$			$\frac{1}{3}$		
$\frac{1}{6}$		$\frac{1}{6}$		$\frac{1}{6}$	$\frac{1}{6}$		$\frac{1}{6}$	$\frac{1}{6}$
$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$

b) Use the fraction wall to complete the equivalent fractions.

$$\frac{1}{3} = \dfrac{\boxed{2}}{6} = \dfrac{3}{\boxed{9}}$$

$$\dfrac{\boxed{2}}{3} = \dfrac{4}{\boxed{6}} = \dfrac{6}{9}$$

$$\dfrac{3}{\boxed{3}} = \dfrac{6}{\boxed{6}} = \dfrac{9}{\boxed{9}} = 1$$

4 Here is a fraction wall.

$\frac{1}{2}$			$\frac{1}{2}$		
$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$	
$\frac{1}{4}$	$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$
$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$		$\frac{1}{5}$
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

Is each statement true or false? Tick your answers.

	True	False
a) $\frac{1}{2}$ is equivalent to $\frac{3}{6}$	✓	
b) $\frac{2}{3}$ is equivalent to $\frac{3}{4}$		✓
c) $\frac{2}{4}$ is equivalent to $\frac{3}{6}$	✓	
d) $\frac{2}{3}$ is equivalent to $\frac{4}{5}$		✓
e) $\frac{2}{3}$ is equivalent to $\frac{4}{6}$	✓	
f) $\frac{3}{5}$ is equivalent to $\frac{4}{6}$		✓

Write your own equivalent fractions statements.

Ask a partner to say if they are true or false.

5 Are the statements always, sometimes or never true?

Circle your answer.

Draw a diagram to support your answer.

a) The greater the numerator, the greater the fraction.

always   **(sometimes)**   never

e.g.
$$\frac{4}{5} > \frac{1}{5} \qquad \frac{1}{2} > \frac{2}{5}$$
BUT

b) Fractions equivalent to one half have even numerators.

always   **(sometimes)**   never

e.g.

$\frac{1}{2}$ (odd numerator)

$\frac{2}{4}$ (even numerator)

c) If a fraction is equivalent to one half, the denominator will be double the numerator.
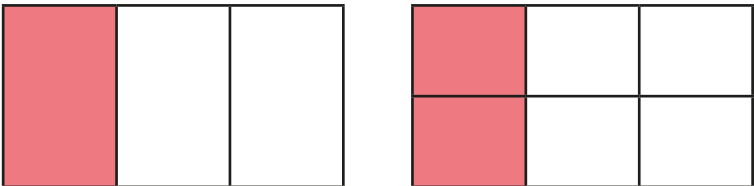
(always)   sometimes   never

No matter how many parts it's split into, the number shaded (numerator) will be half the total parts (denominator).
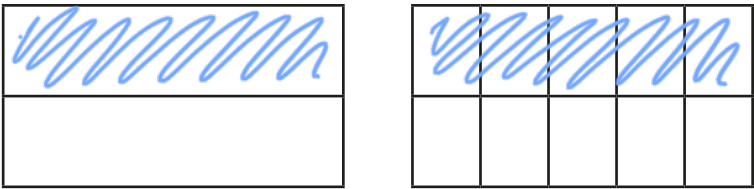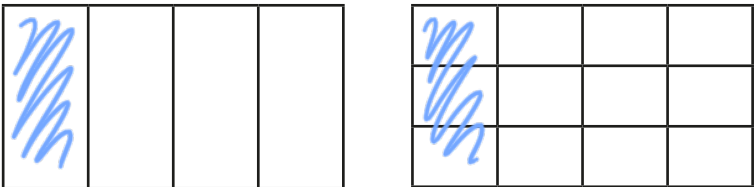
Equivalent fractions (2)

1 Shade the diagrams to help you complete the equivalent fractions.

The first one has been done for you.

a)

$\dfrac{1}{3} = \dfrac{3}{6}$

b)

$\dfrac{1}{2} = \dfrac{5}{10}$

c)

$\dfrac{1}{4} = \dfrac{3}{12}$

2 Draw a diagram to show that $\dfrac{3}{4} = \dfrac{6}{8}$

3 Match the equivalent fractions.

$\dfrac{1}{4}$ $\dfrac{3}{21}$

$\dfrac{4}{10}$ $\dfrac{2}{3}$

$\dfrac{10}{15}$ $\dfrac{2}{5}$

$\dfrac{1}{7}$ $\dfrac{3}{12}$
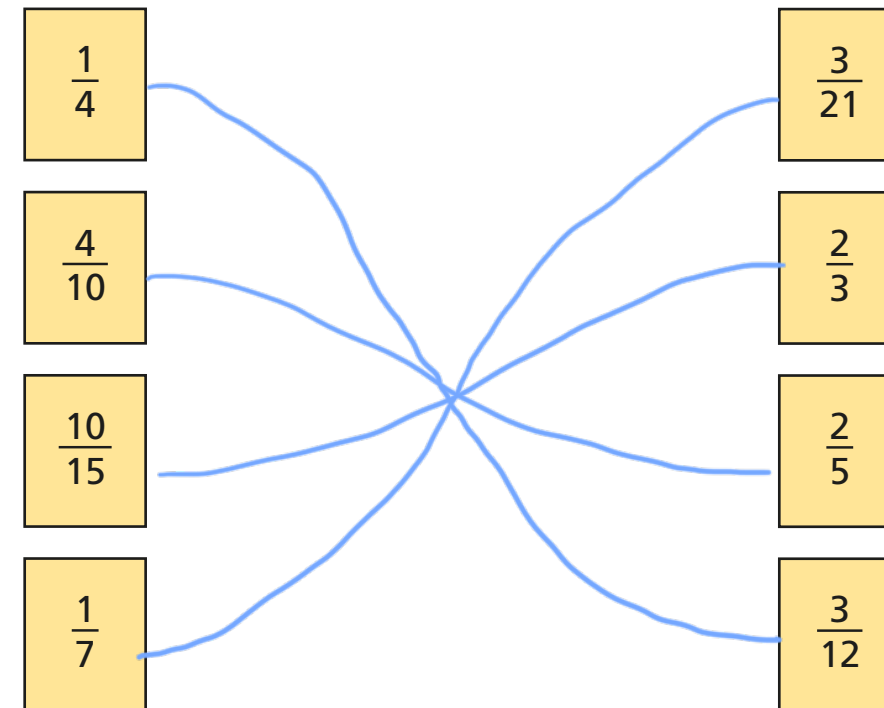
4 Complete the equivalent fractions.

a) $\dfrac{1}{5} = \dfrac{2}{10}$

b) $\dfrac{4}{5} = \dfrac{8}{10}$

c) $\dfrac{3}{10} = \dfrac{6}{20}$

d) $\dfrac{3}{10} = \dfrac{9}{30}$

e) $\dfrac{6}{8} = \dfrac{3}{4}$

f) $\dfrac{8}{12} = \dfrac{2}{3}$

g) $\dfrac{8}{12} = \dfrac{2}{3}$

h) $\dfrac{2}{5} = \dfrac{10}{25}$

i) $\dfrac{1}{7} = \dfrac{4}{28}$

5 a) Write the fractions in the correct place on the sorting diagram.

$\frac{8}{24}$ $\frac{3}{12}$ $\frac{5}{15}$ $\frac{6}{24}$ $\frac{4}{12}$ $\frac{9}{36}$ $\frac{3}{9}$ $\frac{4}{16}$
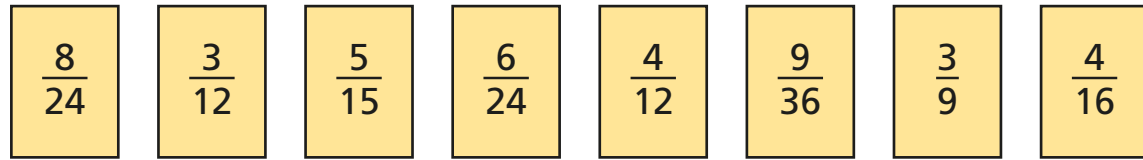
	equivalent to $\frac{1}{3}$	equivalent to $\frac{1}{4}$
odd denominator	$\frac{5}{15}$ $\frac{3}{9}$	
even denominator	$\frac{8}{24}$ $\frac{4}{12}$	$\frac{3}{12}$ $\frac{6}{24}$ $\frac{9}{36}$ $\frac{4}{16}$

b) Are any of the boxes empty?

Why do you think this is?

Talk about your answer with a partner.

6 Find three ways to make the fractions equivalent.

Various answers e.g.

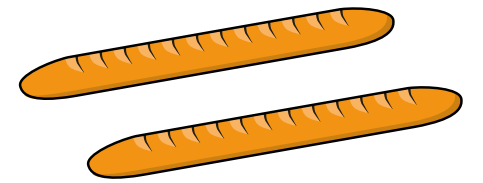a) $\dfrac{2}{2} = \dfrac{4}{4}$ $\qquad$ $\dfrac{2}{5} = \dfrac{4}{10}$ $\qquad$ $\dfrac{2}{71} = \dfrac{4}{142}$

b) $\dfrac{1}{5} = \dfrac{4}{20}$ $\qquad$ $\dfrac{1}{2} = \dfrac{4}{8}$ $\qquad$ $\dfrac{1}{10} = \dfrac{4}{40}$

c) $\dfrac{2}{3} = \dfrac{6}{9}$ $\qquad$ $\dfrac{1}{3} = \dfrac{3}{9}$ $\qquad$ $\dfrac{3}{3} = \dfrac{9}{9}$
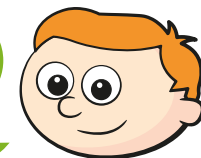
7 Eva and Ron have a baguette each.

The baguettes are the same size.

Eva cuts her baguette into 8 equal pieces.

> 3 of my equal pieces are equal to 6 of Eva's.

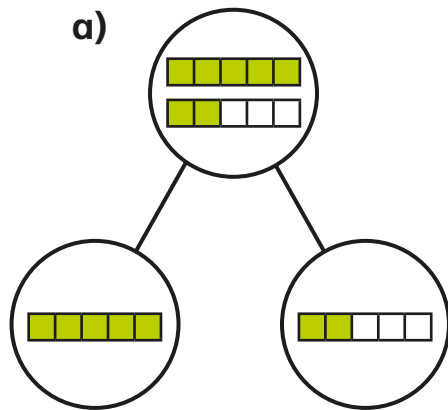How many equal pieces has Ron cut his baguette into?

Eva

Ron

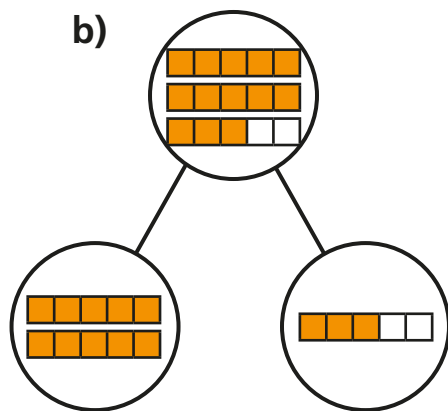Ron has cut his baguette into **4** equal pieces.

1 Complete the sentences.

a)

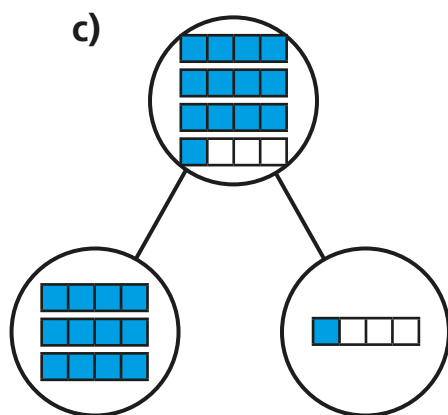There are 7 fifths altogether.

7 fifths = $\boxed{1}$ whole + $\boxed{2}$ fifths

b)

There are $\boxed{13}$ fifths altogether.

$\boxed{13}$ fifths = $\boxed{2}$ wholes +

$\boxed{3}$ fifths

c)

There are $\boxed{13}$ quarters altogether.

$\boxed{13}$ quarters = $\boxed{3}$ wholes +

$\boxed{1}$ quarter

2 Shade the bar models to represent the fractions.

Complete the number sentences.

a) $\frac{5}{3}$

$\frac{5}{3} = \boxed{1}$ whole + $\boxed{2}$ thirds = $\boxed{1\frac{2}{3}}$

b) $\frac{8}{3}$

$\frac{8}{3} = \boxed{2}$ wholes + $\boxed{2}$ thirds = $\boxed{2\frac{2}{3}}$

c) $\frac{8}{5}$

$\frac{8}{5} = \boxed{1}$ whole + $\boxed{3}$ fifths = $\boxed{1\frac{3}{5}}$
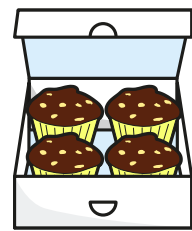
3 Complete the statements.

a) $\frac{12}{2} = \boxed{6}$ wholes

e) $\frac{15}{3} = \boxed{5}$ wholes

b) $\frac{12}{4} = \boxed{3}$ wholes

f) $\frac{15}{5} = \boxed{3}$ wholes

c) $\frac{12}{6} = \boxed{2}$ wholes

g) $\frac{15}{4} = \boxed{3}$ wholes + $\boxed{3}$ quarters

d) $\frac{12}{3} = \boxed{4}$ wholes

h) $\frac{15}{2} = \boxed{7}$ wholes + $\boxed{1}$ half

4 Whitney bakes 26 muffins.

Muffins are packed in boxes of 4

a) How many boxes can Whitney fill?

Whitney can fill $\boxed{6}$ boxes.

b) How many more muffins does Whitney need to fill another box?

Whitney needs $\boxed{2}$ muffins to fill another box.

Explain how you know.

She will fill 6 boxes with 2 left over so another 2 are needed to fill the seventh box.

How does writing $\frac{26}{4}$ help you to answer this?

5 Write <, > or = to complete the statements.

a) 2 wholes and 3 quarters $\boxed{>}$ 5 quarters

b) 2 wholes and 3 quarters $\boxed{<}$ 15 quarters

c) 2 wholes and 3 sixths $\boxed{=}$ 15 sixths

d) 2 wholes and 3 eighths $\boxed{>}$ 15 eighths

e) $\frac{15}{3}$ $\boxed{>}$ $\frac{15}{5}$

f) $\frac{15}{3}$ $\boxed{=}$ $\frac{20}{4}$

6 Complete the part-whole models.

a)

$4\frac{3}{5}$ → 4 and $\frac{3}{5}$

b)

$4\frac{3}{5}$ → 3 and $1\frac{3}{5}$

c)

$4\frac{3}{5}$ → $\frac{13}{5}$ and 2