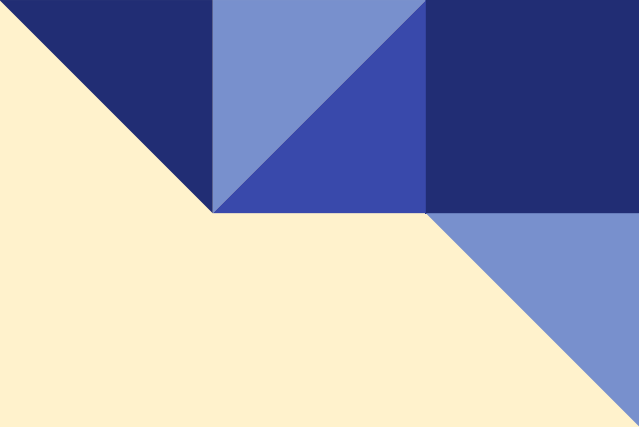


Equipment

-
- Fraction wall



LO: I can investigate and record
equivalent fractions

What is a fraction?

A fraction is a part of a whole.

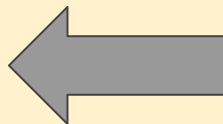


What does the word equivalent mean?

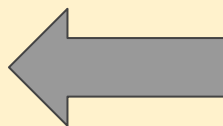
Equivalent means something that is the same or equal.

Which part is the **numerator**? Which part is the **denominator**?

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



Numerator



Denominator

What do you think the next fractions in the pattern will be?

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

What is the relationship between these fractions?



How do you calculate an equivalent fractions?

To calculate an equivalent fraction, you must either multiply or divide the numerator or denominator by the same number.

Which of these fractions follow this rule so are equivalent?

To calculate an equivalent fraction, you must either multiply or divide the numerator or denominator by the same number.

a) $2/4 = 8/16$

b) $2/3 = 10/15$

c) $2/3 = 7/9$

d) $5/10 = 50/100$

What is the relationship between these fractions?

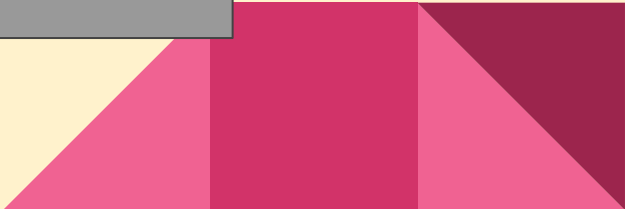
$$\frac{1}{12}$$

$$\frac{2}{24}$$

$$\frac{4}{48}$$

$$\frac{8}{96}$$

Can you finish these equivalent fractions?

$$\frac{1}{12} = \frac{3}{\square}$$


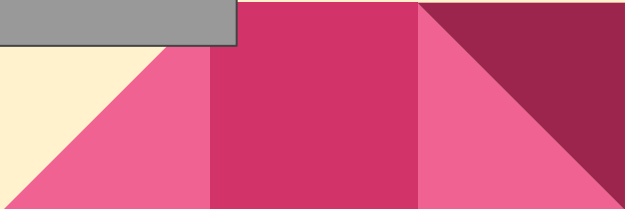
Can you finish these equivalent fractions?

$$\frac{2}{6} = \frac{12}{\square}$$

Can you finish these equivalent fractions?

$$\frac{3}{4} = \frac{\boxed{}}{16}$$

Can you finish these equivalent fractions?

$$\frac{6}{10} = \frac{24}{\square}$$


Can you finish these equivalent fractions?

$$\frac{\text{[Grey Box]}}{7} = \frac{42}{49}$$

Can you finish these equivalent fractions?

$$\frac{\text{[Gray Box]}}{8} = \frac{8}{64}$$

Match the equivalent fractions.

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

$$\frac{4}{10}$$

$$\frac{10}{15}$$

$$\frac{1}{7}$$

$$\frac{3}{21}$$

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

$$\frac{2}{5}$$

$$\frac{3}{12}$$

What do you think will come next in this pattern?

$$\frac{2}{3} \quad \cdot \quad \frac{6}{9} \quad \cdot \quad \frac{18}{27} \quad \cdot$$

$$\begin{array}{c} \boxed{54} \\ \boxed{81} \end{array}$$

Can you explain why using accurate vocabulary?

Tommy is finding equivalent fractions.

$$\frac{3}{4} = \frac{5}{6} = \frac{7}{8} = \frac{9}{10}$$

He says,



I did the same thing to the numerator and the denominator so my fractions are equivalent.

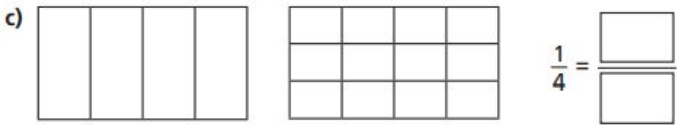
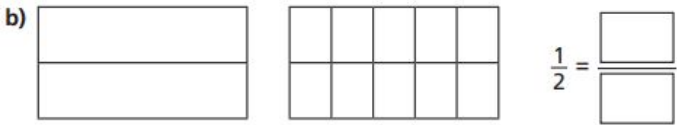
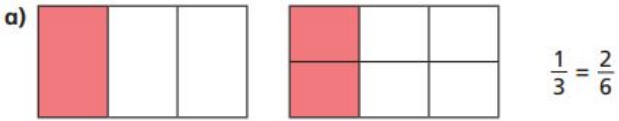
Do you agree with Tommy?
Explain your answer.

Tommy is wrong. He has added two to the numerator and denominator each time. When you find equivalent fractions you either need to multiply or divide the numerator and denominator by the same number.

Know

Shade the diagrams to help you complete the equivalent fractions.

The first one has been done for you.



Complete the equivalent fractions.

a) $\frac{1}{5} = \frac{\square}{10}$

d) $\frac{3}{10} = \frac{9}{\square}$

g) $\frac{8}{12} = \frac{2}{\square}$

b) $\frac{4}{5} = \frac{\square}{10}$

e) $\frac{6}{8} = \frac{3}{\square}$

h) $\frac{2}{\square} = \frac{10}{25}$

c) $\frac{3}{10} = \frac{6}{\square}$

f) $\frac{8}{12} = \frac{\square}{3}$

i) $\frac{1}{\square} = \frac{4}{28}$

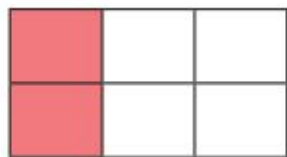
Thinking Deeply

Using your knowledge of equivalent fractions, can you make your way through this maze?

Start	$\frac{1}{3}$	$\frac{8}{15}$	$\frac{3}{57}$	$\frac{3}{7}$	$\frac{12}{16}$	$\frac{5}{9}$
$\frac{10}{20}$	$\frac{2}{4}$	$\frac{2}{6}$	$\frac{6}{18}$	$\frac{12}{36}$	$\frac{24}{72}$	$\frac{4}{5}$
$\frac{7}{8}$	$\frac{11}{28}$	$\frac{1}{9}$	$\frac{3}{10}$	$\frac{10}{100}$	$\frac{46}{126}$	$\frac{48}{144}$
$\frac{50}{100}$	$\frac{13}{20}$	$\frac{6}{12}$	$\frac{1}{8}$	$\frac{3}{5}$	$\frac{96}{157}$	Finish

Know answers

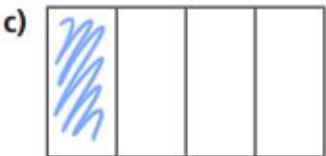
The first one has been done for you.



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



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



$$\frac{1}{4} = \frac{2}{8}$$

Complete the equivalent fractions.

a) $\frac{1}{5} = \frac{\boxed{2}}{10}$

d) $\frac{3}{10} = \frac{9}{\boxed{30}}$

g) $\frac{8}{12} = \frac{2}{\boxed{3}}$

b) $\frac{4}{5} = \frac{\boxed{8}}{10}$

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

h) $\frac{2}{\boxed{5}} = \frac{10}{25}$

c) $\frac{3}{10} = \frac{6}{\boxed{20}}$

f) $\frac{8}{12} = \frac{\boxed{2}}{3}$

i) $\frac{1}{\boxed{7}} = \frac{4}{28}$

Thinking deeply answers

Start	$\frac{1}{3}$	$\frac{8}{15}$	$\frac{3}{57}$	$\frac{3}{7}$	$\frac{12}{16}$	$\frac{5}{9}$
$\frac{10}{20}$	$\frac{2}{4}$	$\frac{2}{6}$	$\frac{6}{18}$	$\frac{12}{36}$	$\frac{24}{72}$	$\frac{4}{5}$
$\frac{7}{8}$	$\frac{11}{28}$	$\frac{1}{9}$	$\frac{3}{10}$	$\frac{10}{100}$	$\frac{46}{126}$	$\frac{48}{144}$
$\frac{50}{100}$	$\frac{13}{20}$	$\frac{6}{12}$	$\frac{1}{8}$	$\frac{3}{5}$	$\frac{96}{157}$	Finish

Understand

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

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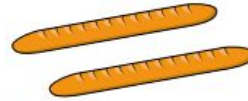
	equivalent to $\frac{1}{3}$	equivalent to $\frac{1}{4}$
odd denominator		
even denominator		

Thinking Deeply

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?

Ron has cut his baguette into equal pieces.

Find three ways to make the fractions equivalent.

a) $\frac{2}{\square} = \frac{4}{\square}$ $\frac{2}{\square} = \frac{4}{\square}$ $\frac{2}{\square} = \frac{4}{\square}$

b) $\frac{1}{\square} = \frac{4}{\square}$ $\frac{1}{\square} = \frac{4}{\square}$ $\frac{1}{\square} = \frac{4}{\square}$

c) $\frac{\square}{3} = \frac{\square}{9}$ $\frac{\square}{3} = \frac{\square}{9}$ $\frac{\square}{3} = \frac{\square}{9}$

Understand answers

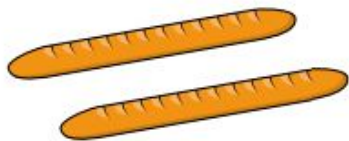
	equivalent to $\frac{1}{3}$	equivalent to $\frac{1}{4}$
odd denominator	$\frac{5}{15}$ $\frac{2}{6}$	
even denominator	$\frac{8}{24}$ $\frac{4}{12}$	$\frac{3}{12}$ $\frac{6}{24}$ $\frac{9}{36}$ $\frac{4}{16}$

Thinking Deeply answers

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?



Ron has cut his baguette into equal pieces.

Find three ways to make the fractions equivalent.

Various answers e.g.

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

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

c) $\frac{2}{3} = \frac{6}{9}$ $\frac{1}{3} = \frac{3}{9}$ $\frac{3}{3} = \frac{9}{9}$

Reflection

How have you developed your learning from yesterday?

I have developed my learning by...

Vocabulary

Fraction, equivalent, numerator, denominator, multiply, divide.

I have developed my learning by knowing that I can work out equivalent fractions by multiplying or dividing the numerator and denominator of the fraction by the same number.

I have developed my learning because I have listened and can do equivalent fractions.