RECALL

Let's practise what we did yesterday.

$\frac{1}{4} + \frac{1}{4} =$

2/5 + 2/5 =

1/6 + 3/6 =

5/8 + 6/8 =

This is a tricky one. It might help you to draw some rectangles and split them into eighths.

RECALL Answers

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

$2/5 + 2/5 = \frac{4}{5}$

$1/6 + 3/6 = \frac{4}{6}$

$5/8 + 6/8 = \frac{11}{8}$ or $1\frac{3}{8}$

L.O. TO RECOGNISE AND SHOW EQUIVALENT FRACTIONS IN A FAMILY OF FRACTIONS.

Do you recognise this word?
What does it mean?
Can you put it in a sentence?

Some will even – spot a mistake in a calculation

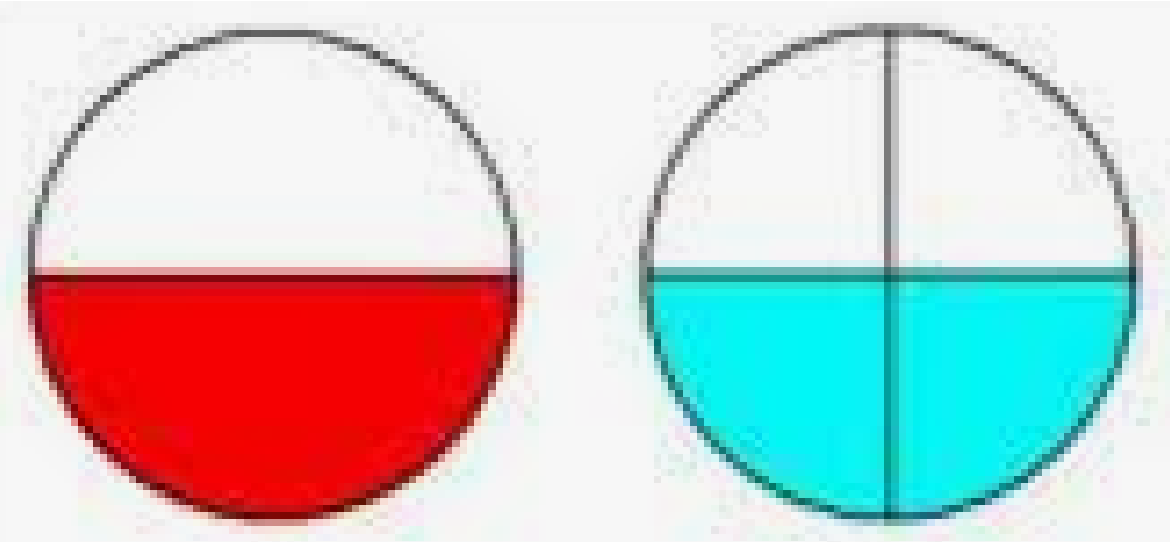
Some will – calculate equivalent fractions

Most will - identify pairs of equivalent fractions

All will - know what equivalent fractions are

WHAT DOES EQUIVALENT MEAN?

Equivalent- Equal, or the same.

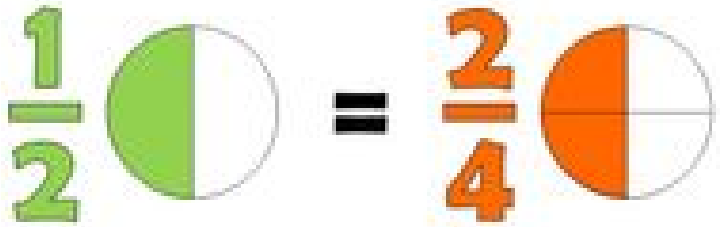


This circle has been cut into halves. One half is shaded.

This circle has been cut into quarters. Two quarters are shaded.

The same amount of each circle is shaded.

One half is equal to two quarters.



These are equivalent fractions.

INVESTIGATE

Use two strips of equal sized paper.

Fold one strip into quarters and the other into eighths.

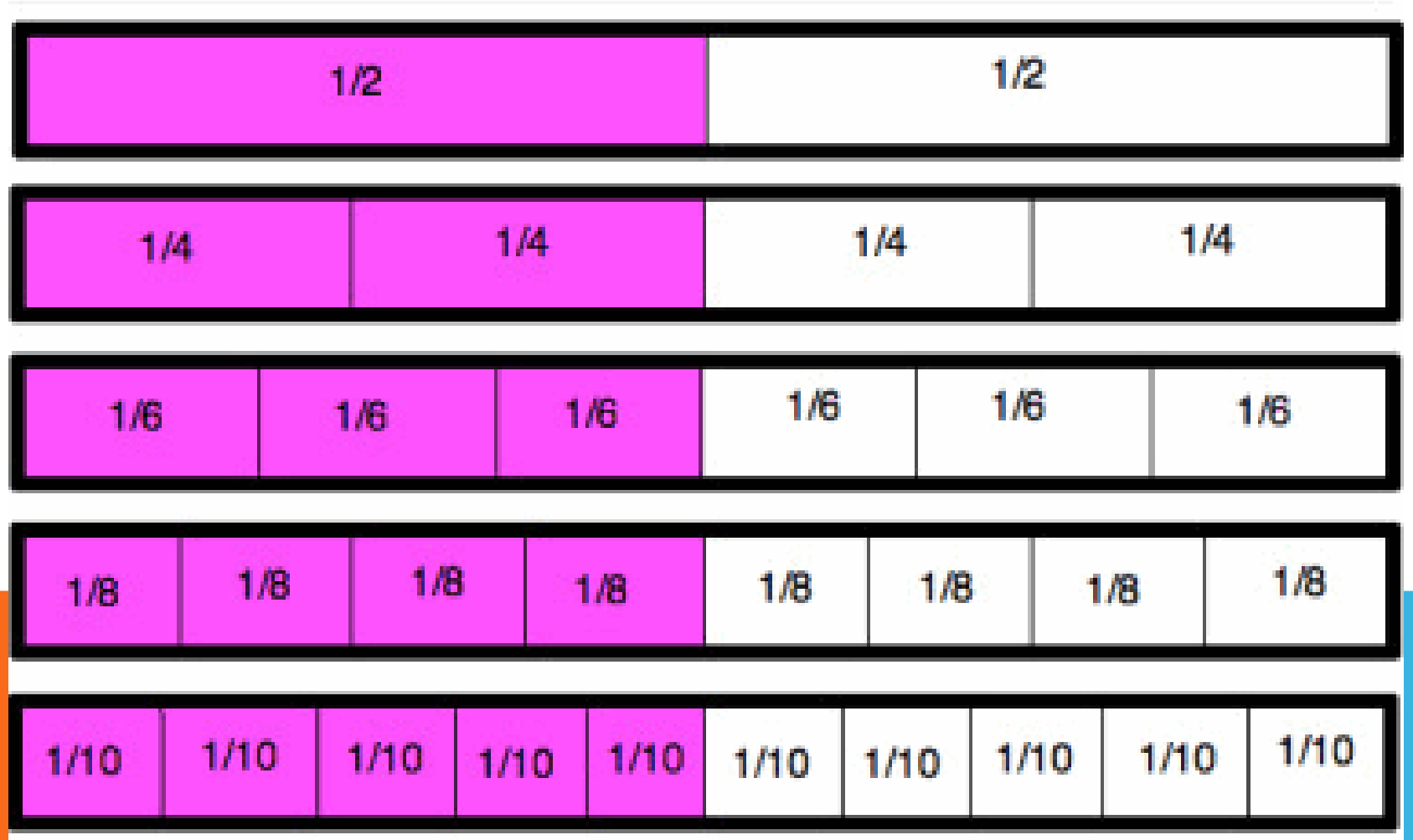
Place the quarters on top of the eighths and lift up one quarter, how many eighths can you see?

How many eighths are equivalent to one quarter?

Which other equivalent fractions can you find?

INVESTIGATE

How many fractions that are equivalent to one half can you see on the fraction wall?



$\square = \frac{1}{2}$

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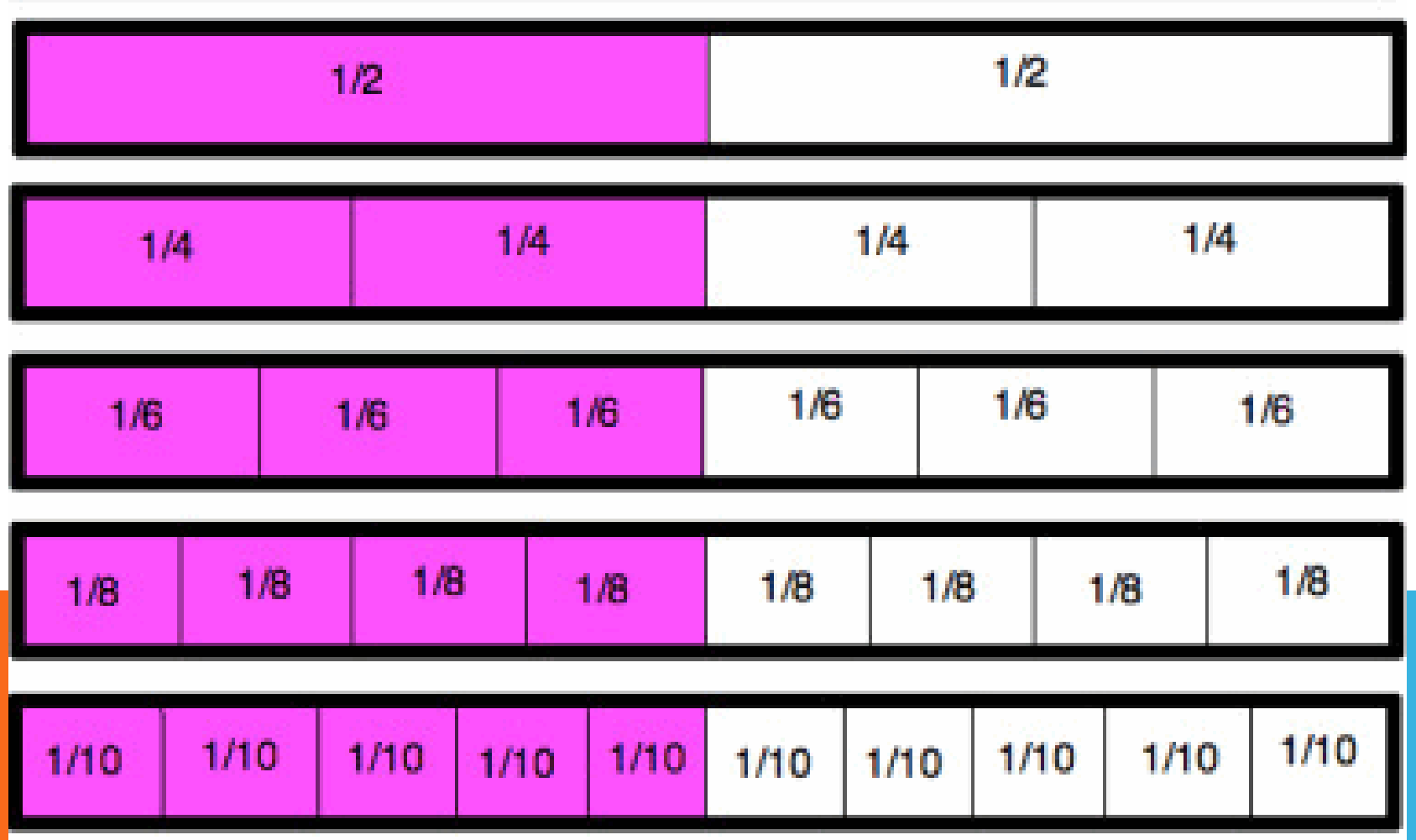
INVESTIGATE

How many fractions that are equivalent to one half can you see on the fraction wall?



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

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

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

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

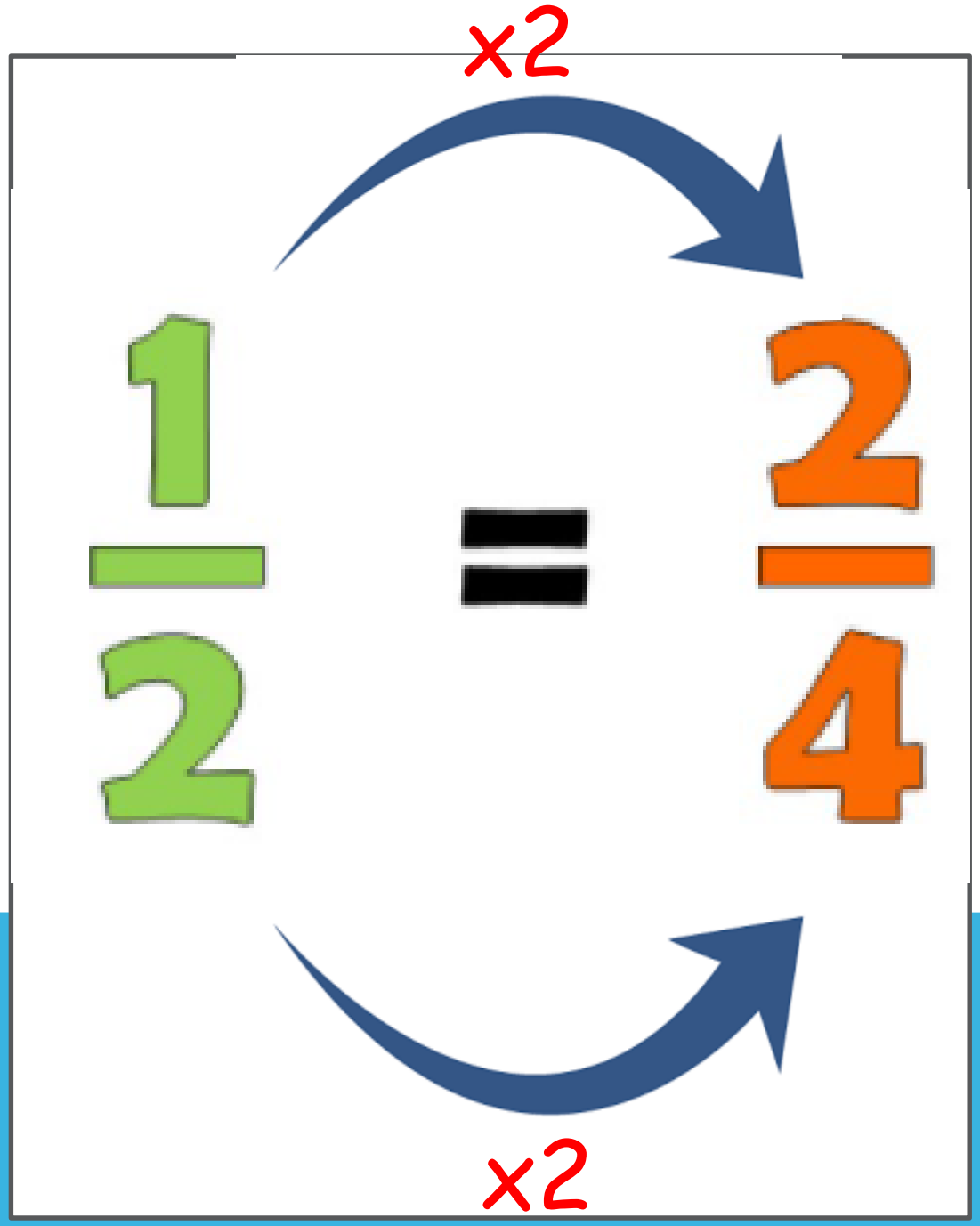
All of these fractions are equal. They are equivalent fractions.

How to find equivalent fractions

It would take a very long time to find equivalent fractions if we had to draw pictures every time – that wouldn't be very efficient.

There is a way we can calculate equivalent fractions using multiplication.

Let's look again at a pair of equivalent fractions.

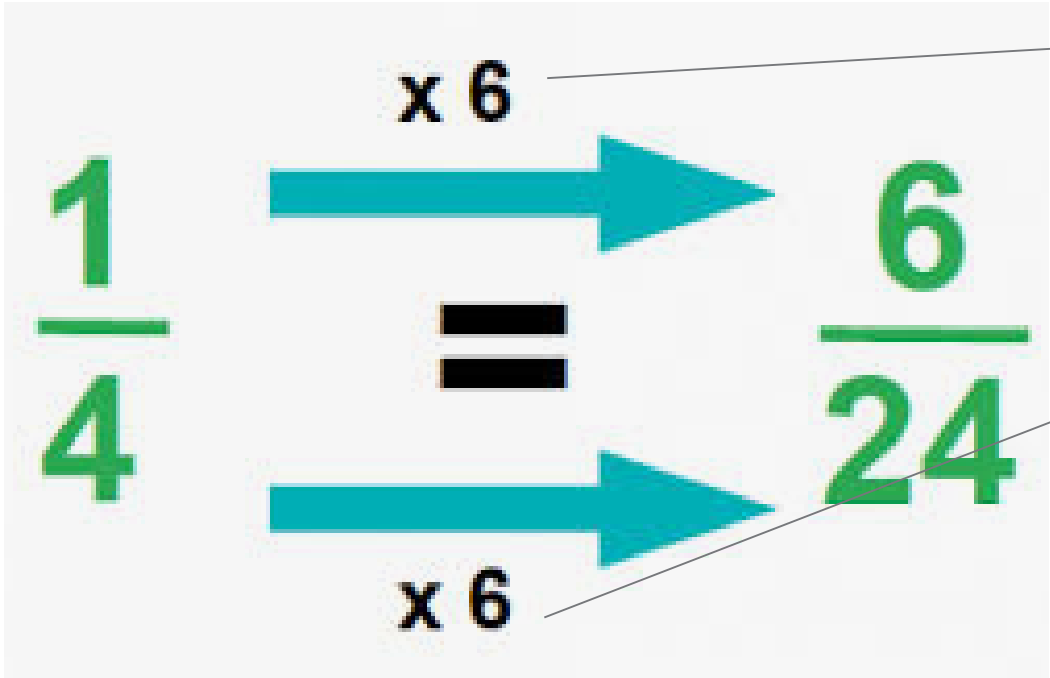


The numerator has been multiplied by 2…

…so the same thing happens to the denominator

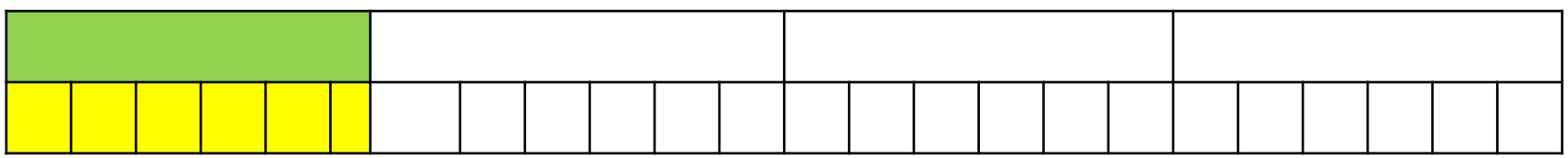
GUIDED PRACTICE

We can use this multiplication trick to find an equivalent to any fraction.



The bottom and the top part of the fraction have both been multiplied by the same number.

One quarter is equivalent to six twenty-fourths.



INTELLIGENT PRACTICE

Chilli 1 Which of these pairs of fractions are equivalent?	Chilli 2 Explain the rule that has taken place to convert these fractions.	Chilli 3- Convert these fractions.
A: 2/3 and 4/6	**A: 3/5 = 6/10**	**A: 2/4 = ?/8**
B: 2/4 and 3/4	**B: $\frac{3}{4}$ = 9/12**	**B: 5/6 = ?/12**
C: 1/3 and 1/6	**C: 4/6 = 16/24**	**C: 2/3 = ?/9**
D: 2/4 and 4/8		**D: 6/8 = ?/32**

INTELLIGENT PRACTICE

Chilli 1 Which of these pairs of fractions are equivalent?

A: 2/3 and 4/6

Equivalent

B: 2/4 and $\frac{3}{4}$

Not equivalent

C: 1/3 and 1/6

Not equivalent

D: 2/4 and 4/8

Equivalent

Chilli 2 Explain the rule that has taken place to convert these fractions.

A: 3/5 = 6/10

The numerator and denominator have been multiplied by 2

B: $\frac{3}{4}$ = 9/12

The numerator and denominator have been multiplied by 3

C: 4/6 = 16/24

The numerator and denominator have been multiplied by 4

Chilli 3- Convert these fractions.

A: 2/4 = 4/8

B: 5/6 = 10/12

C: 2/3 = 6/9

D: 6/8 = 24/32

DIVE DEEPER

Dive Deeper 1

A: 2/5 = 6/?

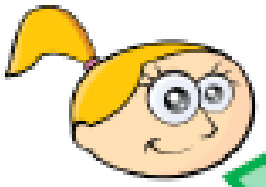
B: 5/6 = 10/?

C: ?/8 = 25/40

D: ?/4 = 15/20

Dive Deeper 2

Laura says:



I know that $\frac{3}{4}$ is equivalent to $\frac{3}{8}$ because the numerators are the same.

Is Laura correct? Explain why.

DIVE DEEPER ANSWERS

Dive Deeper 1

A: 2/5 = 6/15

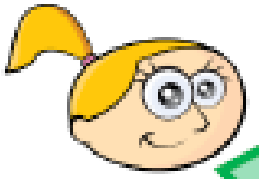
B: 5/6 = 10/12

C: 5/8 = 25/40

D: 3/4 = 15/20

Dive Deeper 2

Laura says:



I know that $\frac{3}{4}$ is equivalent to $\frac{3}{8}$ because the numerators are the same.

Is Laura correct? Explain why.

Laura is not correct because the denominator has been multiplied by 2, but the numerator has stayed the same.

Self assessment – how did you do?

Some will even – spot a mistake in a calculation

Did you get Dive Deeper 2 right?

Some will – calculate equivalent fractions

Did you get Chilli 3 right? If you got Dive Deeper 1 right too, that shows you *really* get it!

Most will - identify pairs of equivalent fractions

Did you get Chilli 1 right?

All will - know what equivalent fractions are

Can you explain what an equivalent fraction is?