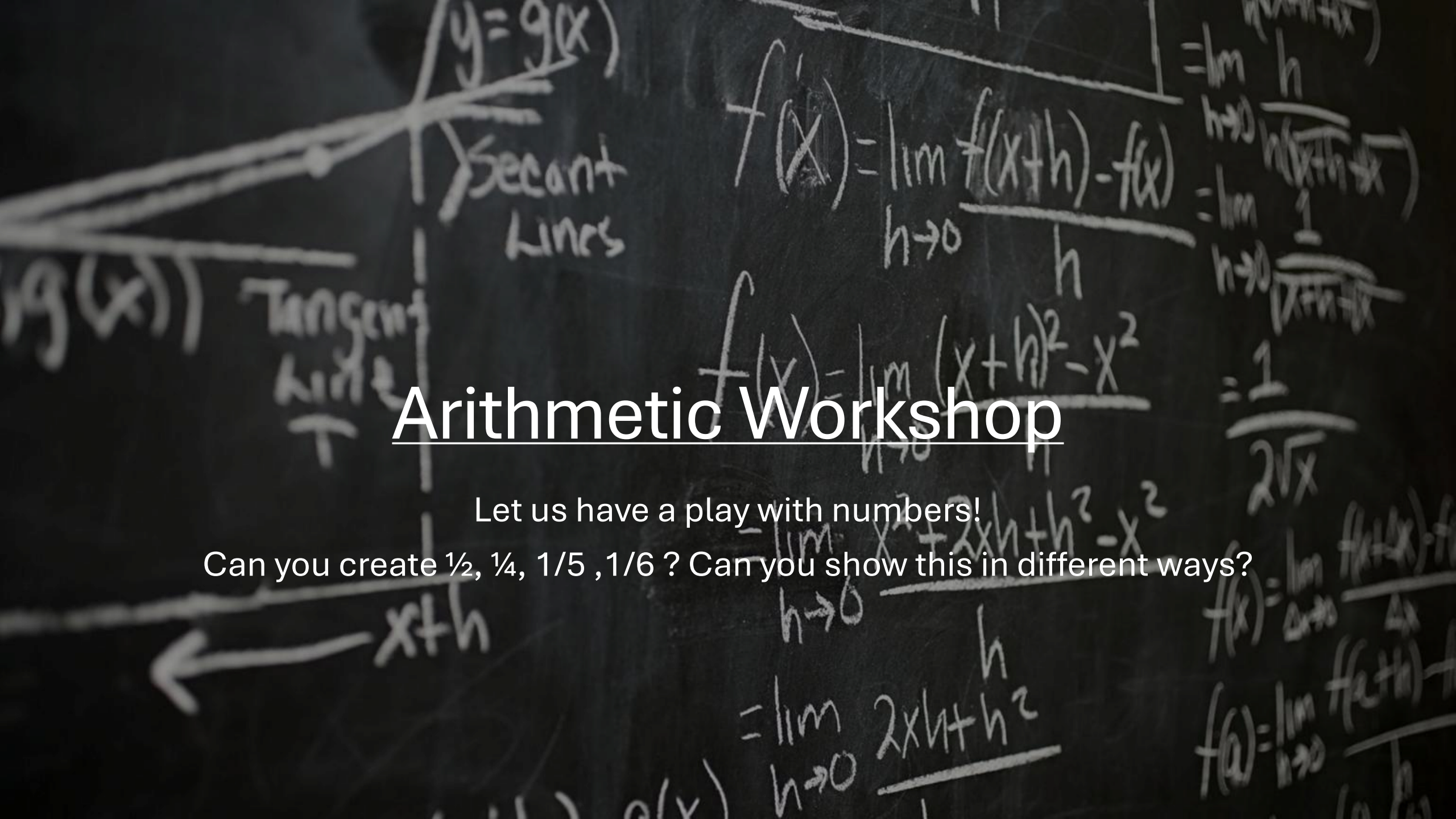


Arithmetic Workshop

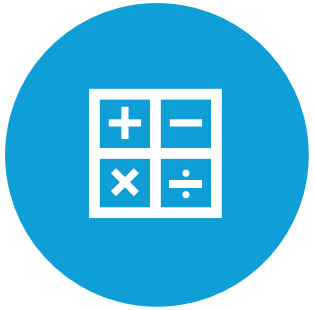
Let us have a play with numbers!

Can you create ½, ¼, 1/5 ,1/6 ? Can you show this in different ways?

Itinerary

RULES FOR THE SESSION

INTRO – MATHS ANXIETY



ARITHMETIC – FEEDBACK FROM YOU.

FRACTIONS FOCUS

Rules for the session

Help yourself to snacks.

This is a safe space – you are allowed/encouraged to try things and get them wrong.

This is a confidential space.

Be honest – thumbs up, middle, down.

Feel free to interrupt with a question at any point.

No such thing as a stupid question.

Tell me if I am going to fast - I can go over something repeatedly until you are happy.

If we don't get through everything, that is ok.

Maths Anxiety – affects the whole spectrum of ability

Having a positive role model to teach maths

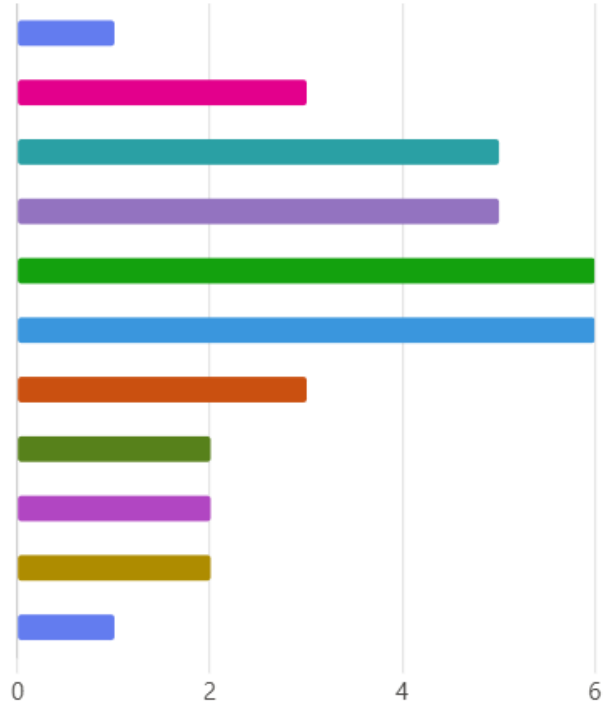
Parental experience/attitude towards maths

General Self-esteem/Confidence

Arithmetic Feedback

4. I would like to cover the following topics (please note that you are able to select more than one) (0 point)

Formal Addition and subtraction	1
Multiplication	3
Short and Long Division	5
Fractions of a number	5
Adding and subtracting Fractions	6
Multiplying and Dividing Fractions	6
Percentages	3
Adding and subtraction with decimals	2
Missing Box problems.	2
BODMAS	2
Other	1



Fractions

Let us share our fractions that we made.

What is a fraction?

What is a Fraction?

Part of a whole

A number that expresses equal parts of a whole object or set of objects.

$\frac{2}{3}$ $\frac{1}{2}$ $\frac{3}{4}$ $\frac{4}{7}$

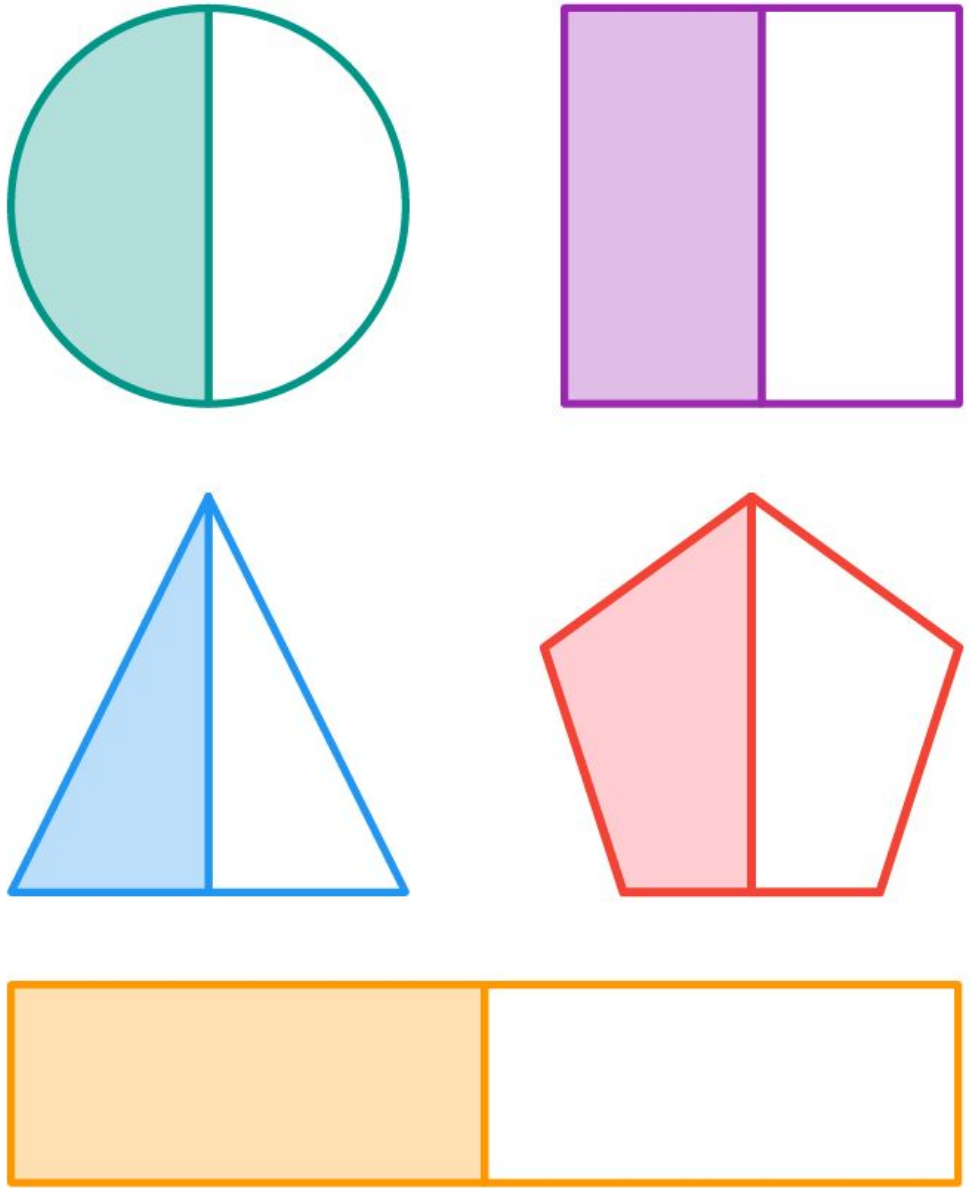
$$\frac{\text{part}}{\text{whole}}$$

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

numerator

dividing line

denominator



Y3 Fractions

- With your fraction strips, can you show me ¾ , 2/5 , 5/6 ?

- (Note for Mr Cole – talk about unit and non-unit fractions)

Y3 Fractions – adding fractions with the same denominator

1/5 + 2/5 =

Y3 Fractions – subtracting fractions with the same denominator

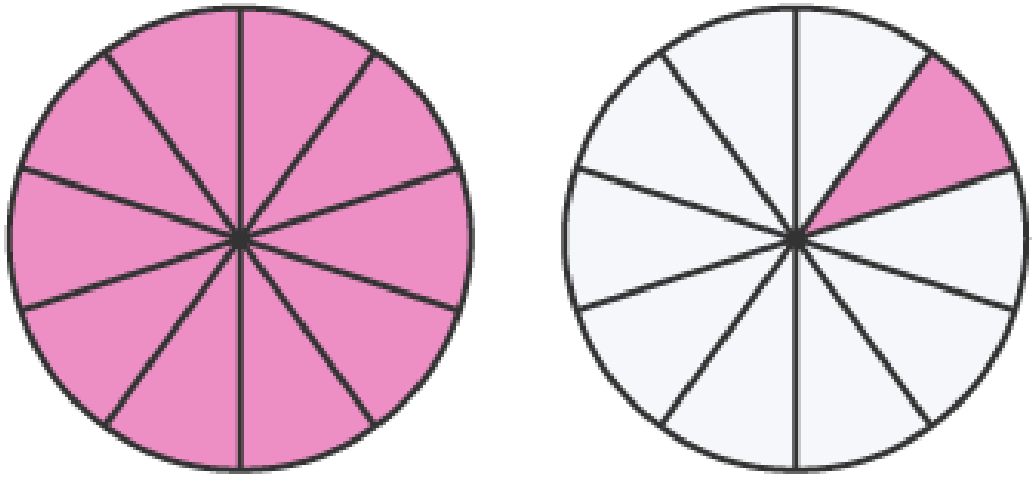
4/5 - 1/5 =

Y4 Fractions – Which one is the odd one out and why?

Y4 Fractions – Improper Fraction

Where the numerator is greater than the denominator.

Numerator > Denominator

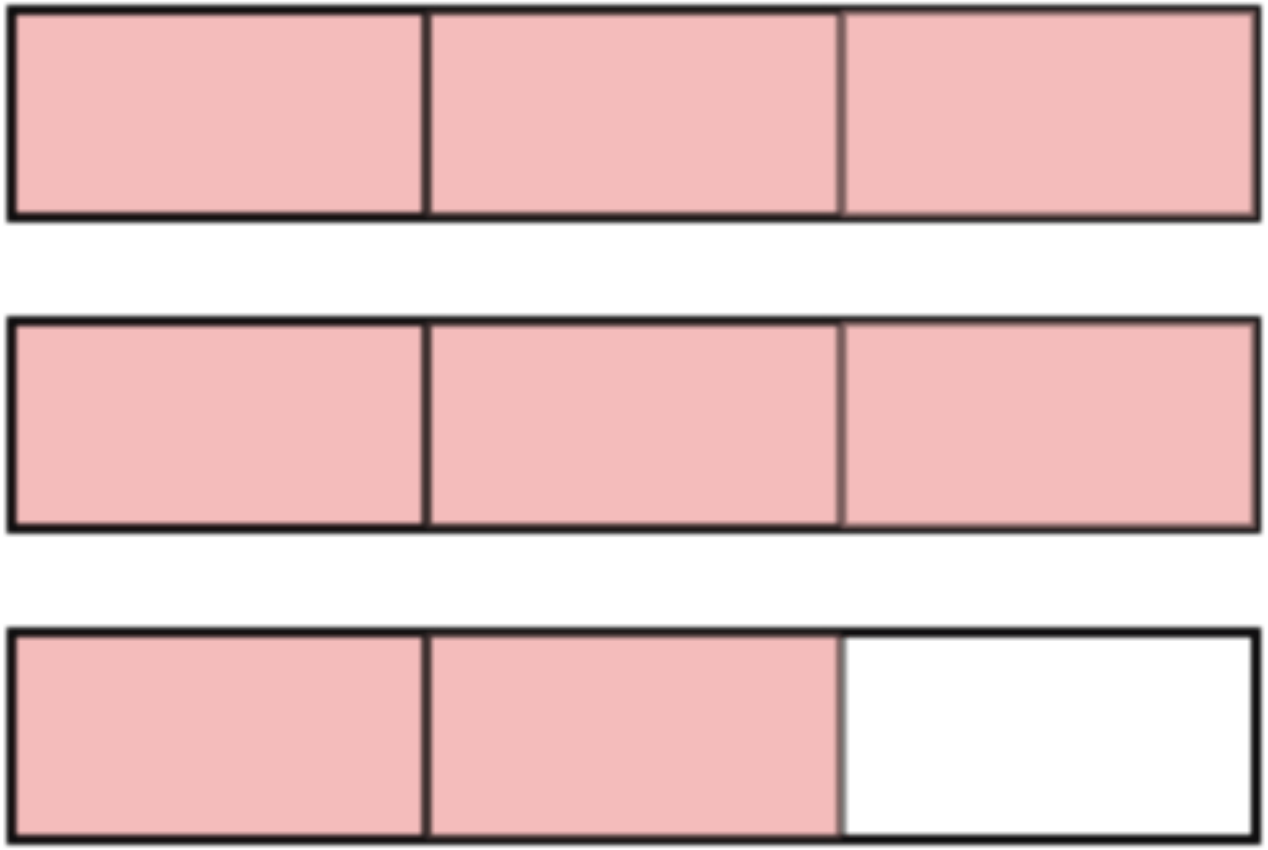


$$\frac{11}{10}$$

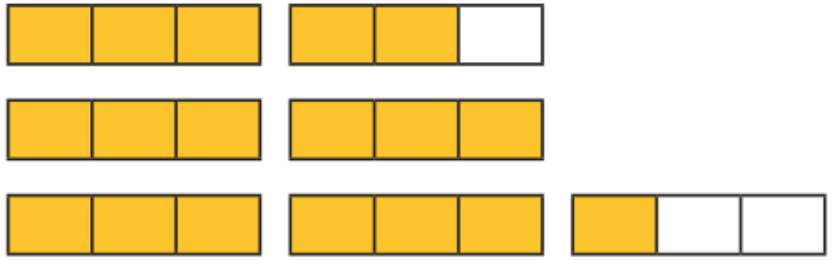
$\frac{3}{4}$	$\frac{1}{8}$	$\frac{2}{5}$
$\frac{9}{16}$	$\frac{7}{11}$	$\frac{12}{15}$
$\frac{8}{6}$	$\frac{5}{10}$	$\frac{6}{6}$

Y4 Fractions – Improper Fraction

What improper fraction do we have here?



Y4 – Improper Fractions

- What improper fractions are shown in the diagrams?
  - 
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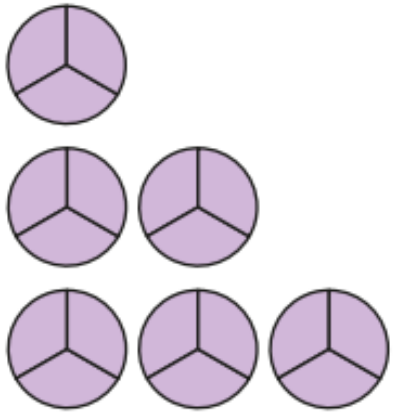
- Fill in the missing numbers.
  - 

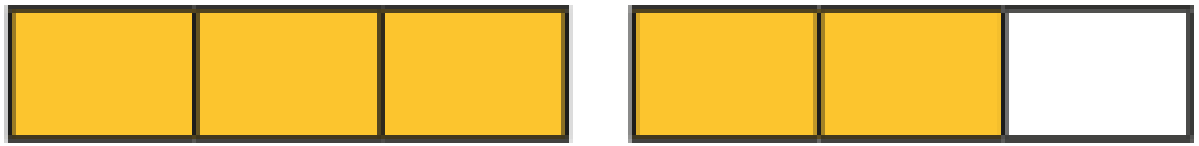
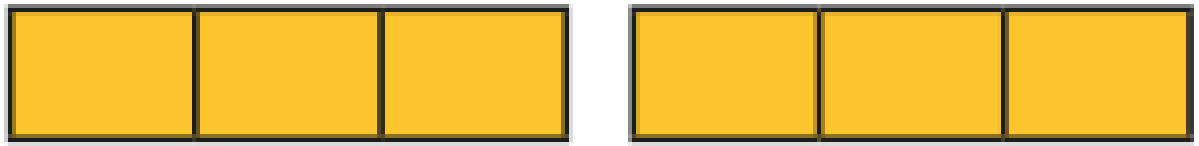
$\frac{3}{3}$ = _____ whole

$\frac{6}{3}$ = _____ wholes

$\frac{9}{3}$ = _____ wholes

Y4 – Improper Fractions and Mixed Numbers

Have a go at creating your own mixed numbers/improper fractions.

- What improper fractions are shown in the diagrams?
  - 
  - 
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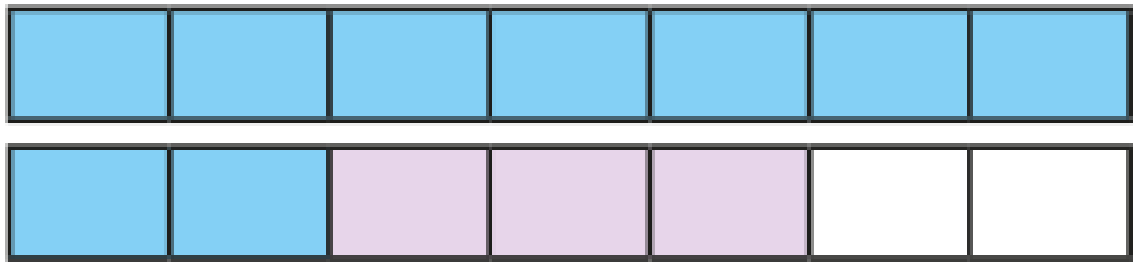
Y4 – Adding Fractions

- Tommy uses a bar model to work out this addition.



$$1\frac{2}{7} + \frac{3}{7} = 1\frac{5}{7}$$

Use bar models to work out the additions.

$1\frac{3}{7} + \frac{3}{7}$

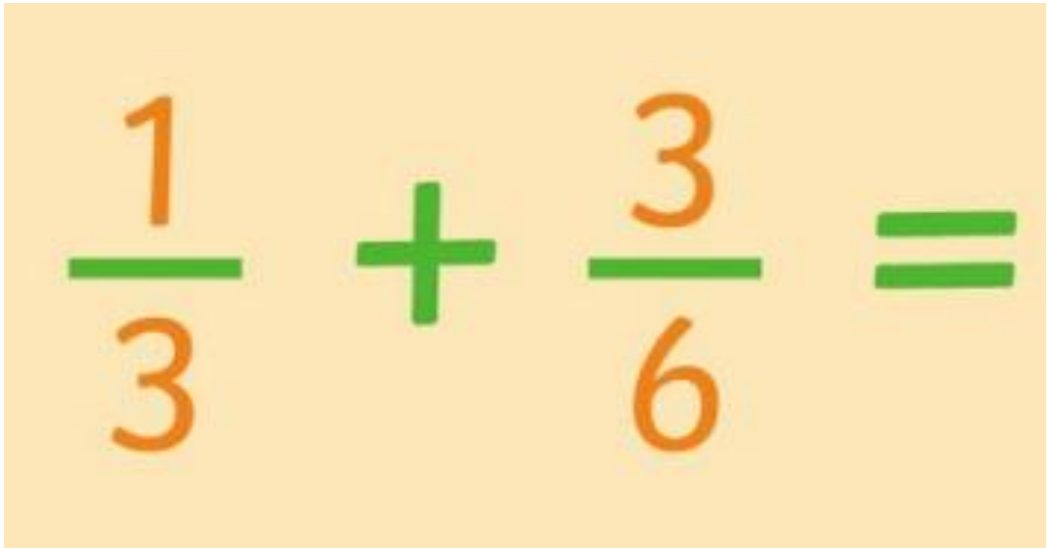
$1\frac{1}{5} + \frac{2}{5}$

$2\frac{3}{10} + \frac{6}{10}$

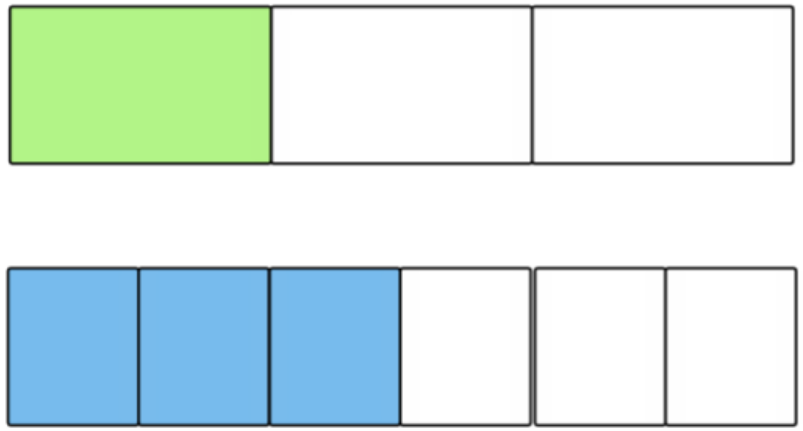
$\frac{7}{10} + 3\frac{1}{10}$

Y5/6 Fractions – different denominators

- What is the same/different compared to previous problems?
- What is an issue this time round?



Y5/6 Fractions – different denominators



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

- When we are adding/subtracting fractions, we must make sure the denominators are the same.
- How do we make them the same?

Y5/6 Fractions – different denominators

Have a go at the following problems:

1. $\frac{1}{4} + \frac{2}{12} = \_\_\_\_$

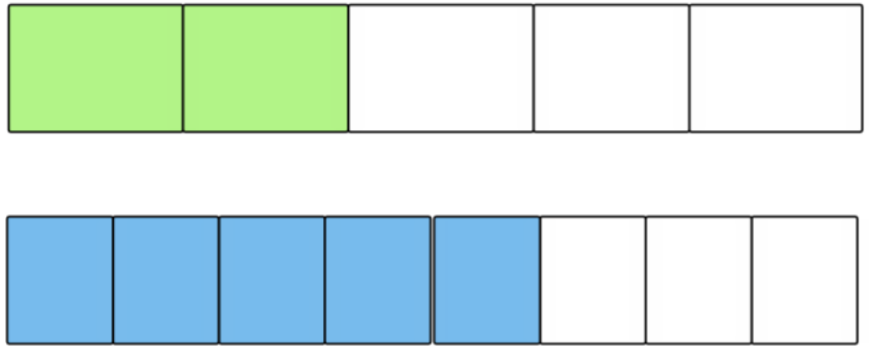
2. $\frac{2}{6} + \frac{1}{2} = \_\_\_\_$

3. $\frac{1}{3} + \frac{2}{9} = \_\_\_\_$

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

Y5/6 Fractions – different denominators

What's similar/different about this problem?



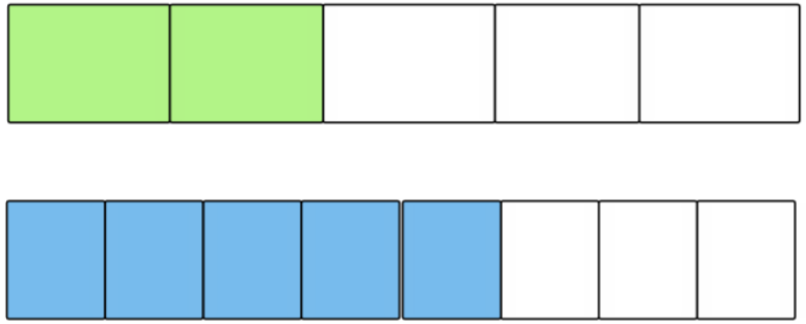
Y5/6 Fractions – different denominators

1. $\frac{1}{5} + \frac{1}{7} =$ ____

2. $\frac{4}{5} + \frac{1}{10} =$ ____

3. $\frac{2}{3} + \frac{1}{4} =$ ____

4. $\frac{1}{8} + \frac{2}{5} =$ ____



Have a go at the following:

Y5/6 Fractions of a number

Have a go at the following:

12 ÷ 2 =
16 ÷ 4 =
15 ÷ 3 =
15 ÷ 5 =
28 ÷ 7 =

Y5/6 Fractions of a number

Have a go at the following:

½ x 12

¼ of 16

1/3 of 15

1/5 x 15

1/7 of 28

What do we notice?

Y5/6 Fractions of a number

Have a go at the following:

3/4 of 16

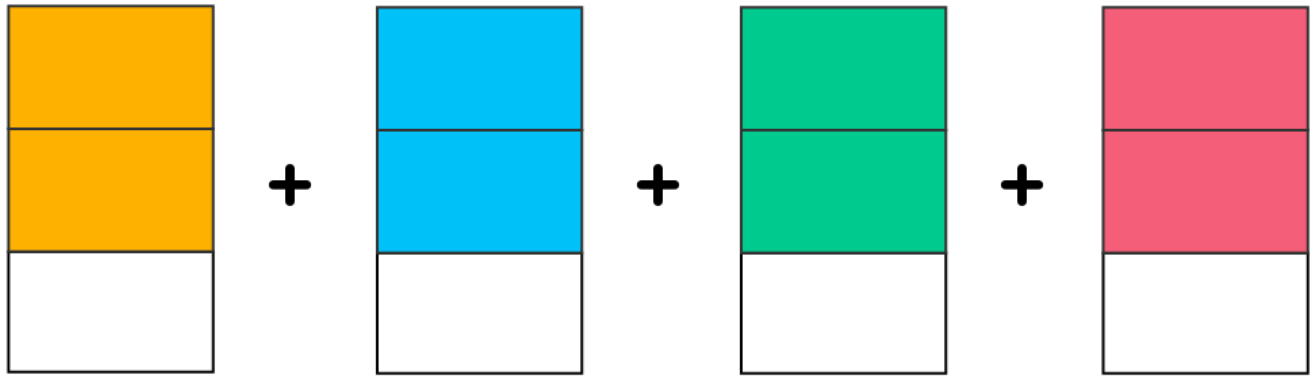
2/3 of 15

3/5 x 15

2/7 of 28

What do we notice?

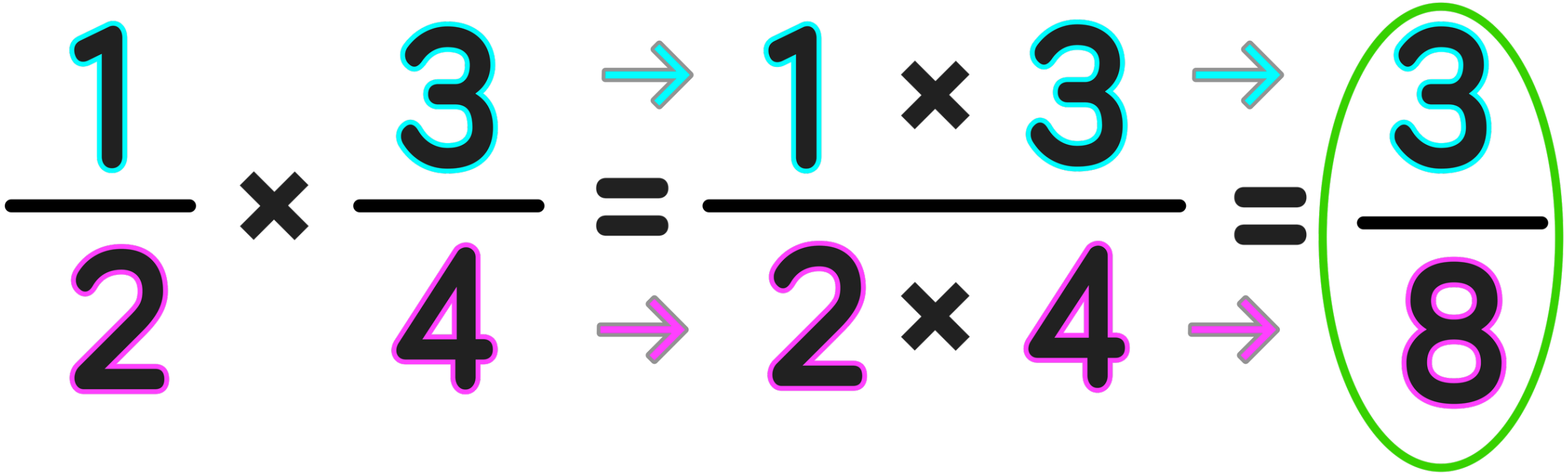
Y5/6 Multiplying and Dividing Fractions



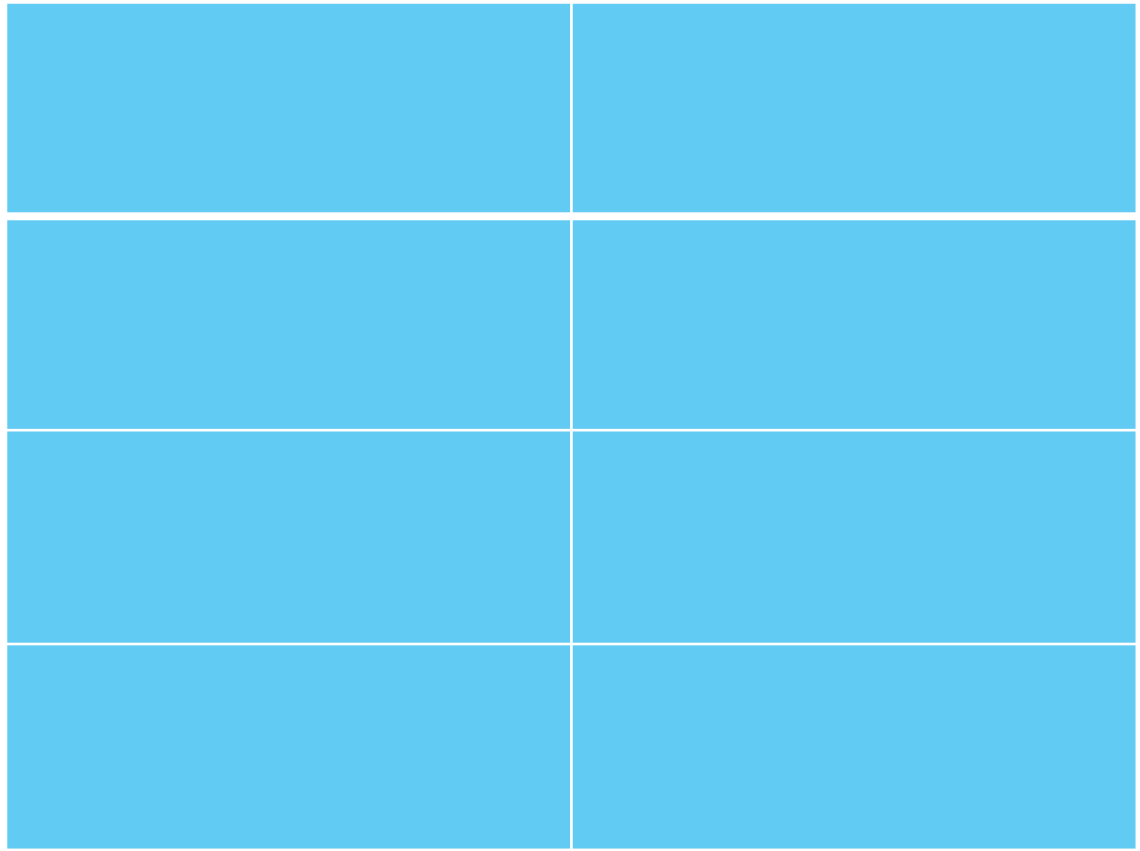
$$\frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3}$$

$$4 \times \frac{2}{3} = \frac{8}{3}$$

Y5/6 Multiplying and Dividing Fractions



Y5/6 Multiplying and Dividing Fractions



$$\frac{1}{2} \times \frac{3}{4} = \frac{1 \times 3}{2 \times 4} = \frac{3}{8}$$

Y5/6 Multiplying and Dividing Fractions

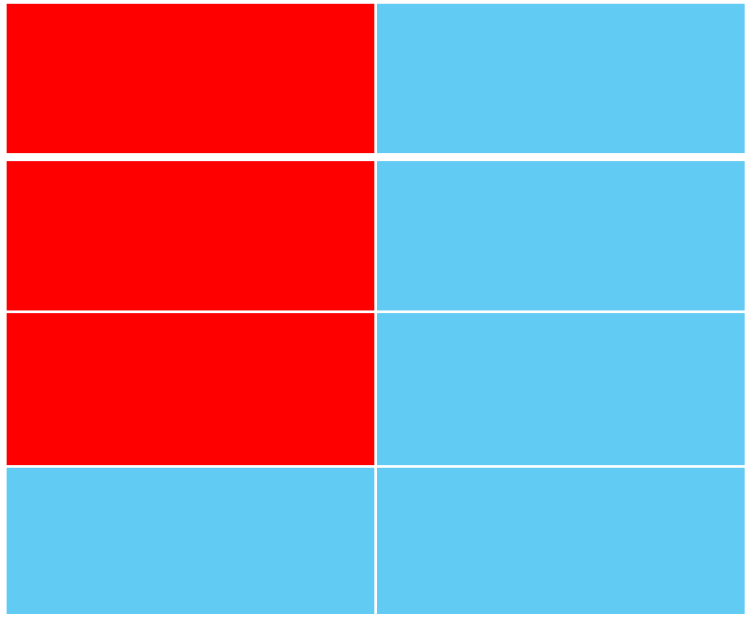
Have a go at the following:

$$\frac{2}{3} \times \frac{1}{10}$$

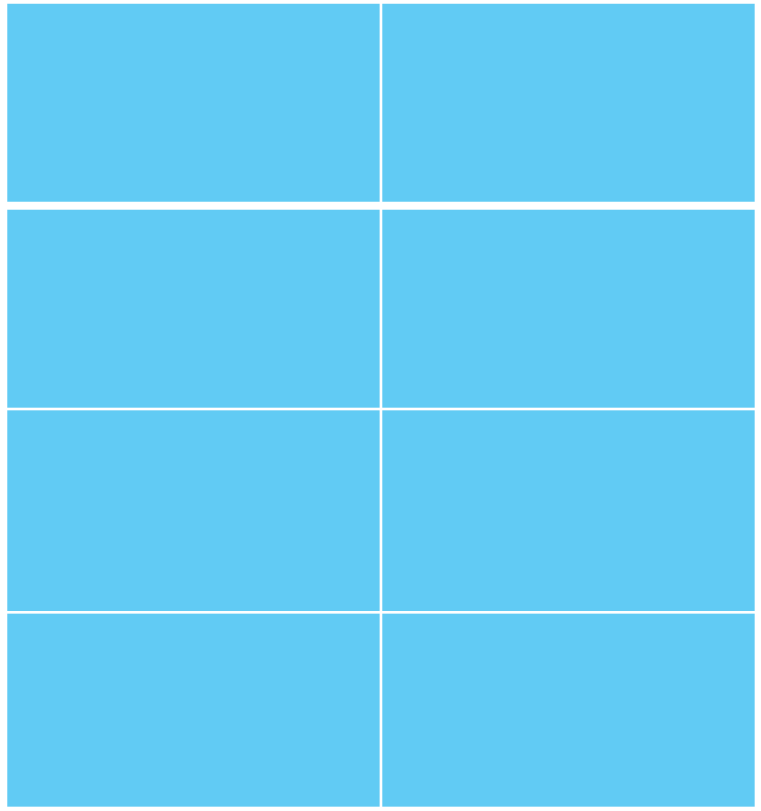
$$\frac{1}{3} \times \frac{1}{10}$$

$$\frac{4}{3} \times \frac{1}{10}$$

$$\frac{1}{2} \times \frac{3}{4} = \frac{1 \times 3}{2 \times 4} = \frac{3}{8}$$

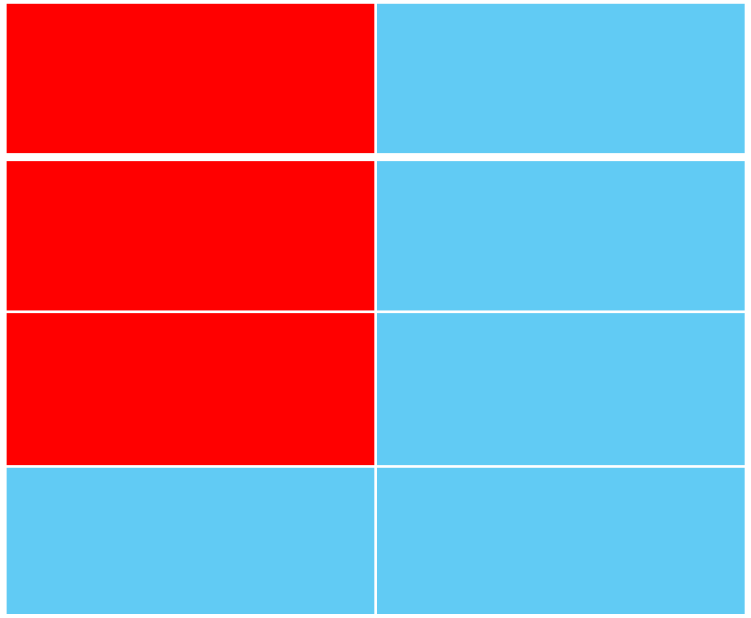


Y5/6 Multiplying and Dividing Fractions



- 4/8 ÷ 2 = 2/8
- ¾ ÷ 2 = ????

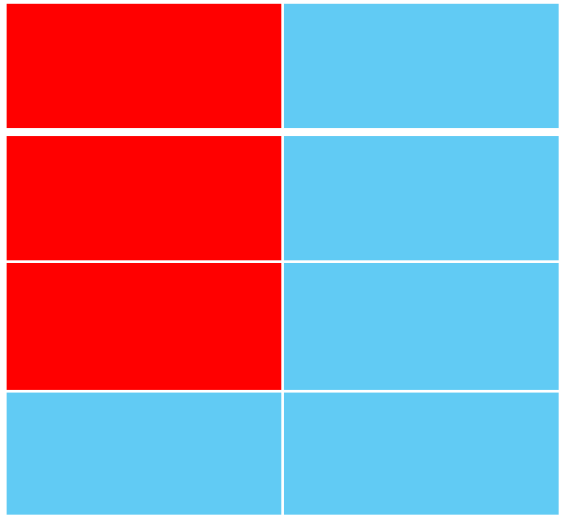
Y5/6 Multiplying and Dividing Fractions



- ¾ ÷ 2 = 3/8
- ¾ x ½ = 3/8

Multiply the denominator by the divisor.

Y5/6 Multiplying and Dividing Fractions



¾ ÷ 2 = 3/8

¾ x ½ = 3/8

Multiply the denominator by the divisor.

Have a go at these:

3/5 ÷ 7

4/7 ÷ 3

6/11 ÷ 4