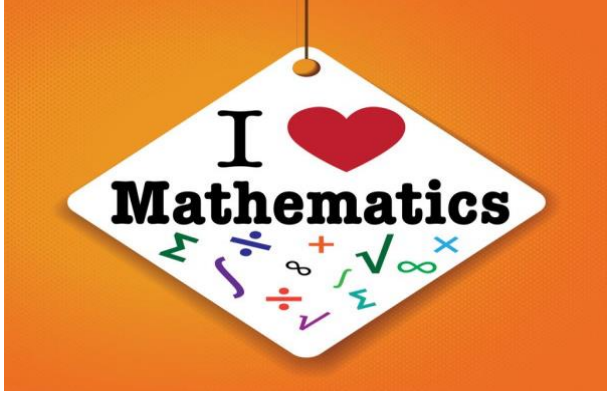
White Rose Maths Home Learning Video Links

Year 6

Summer Term Week 4 (w/c 11 May)

Lesson 1
Multiply fractions by integers
https://vimeo.com/415879394
Lesson 2
Multiply fractions by fractions
https://vimeo.com/415879473
Lesson 3
Divide fractions by integers
https://vimeo.com/415879537
Lesson 4
Fractions of an amount
https://vimeo.com/415879623
Lesson 5
Challenge



Lesson 1

Multiply fractions by integers

Watch video at https://vimeo.com415879394

Answer questions on next few slides.

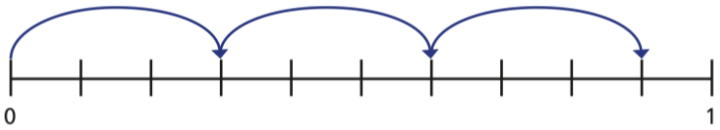
Multiply fractions by integers

1 Complete the calculations.

a)

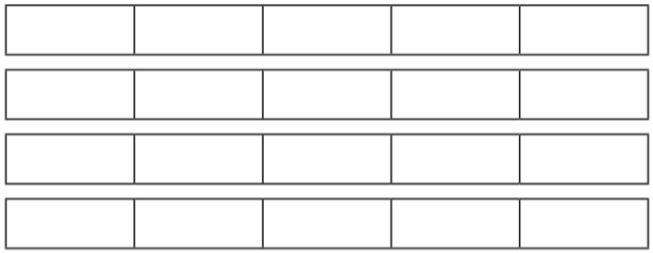
$\frac{2}{7} \times 2 =$ ☐

b)



$3 \times \frac{3}{10} =$ ☐

2 **a)** Shade the bar models to show $\frac{2}{5} \times 4$



b) Complete the multiplication.

$\frac{2}{5} \times 4 =$ ☐

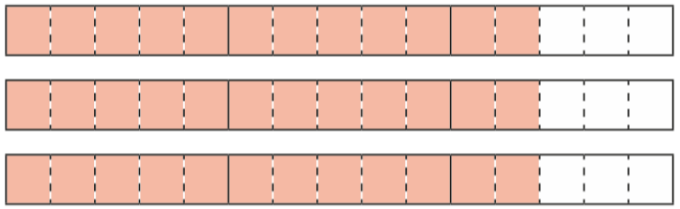
3 Complete the calculations.

a) $\frac{1}{3} \times 1 =$ ☐	**b)** $\frac{3}{4} \times 1 =$ ☐
$\frac{1}{3} \times 2 =$ ☐	$\frac{3}{4} \times 2 =$ ☐
$\frac{1}{3} \times 3 =$ ☐	$\frac{3}{4} \times 3 =$ ☐
$\frac{1}{3} \times 4 =$ ☐	$\frac{3}{4} \times 4 =$ ☐
$\frac{1}{3} \times 5 =$ ☐	$\frac{3}{4} \times 5 =$ ☐
$\frac{1}{3} \times 6 =$ ☐	$\frac{3}{4} \times 6 =$ ☐

What patterns do you notice?

4 Complete the multiplication.

$2\frac{2}{5} \times 3 =$ ☐



What method did you use? Is there a different method you could have used?

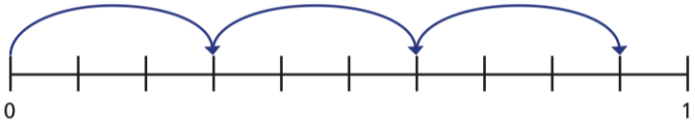
Multiply fractions by integers

1 Complete the calculations.

a)

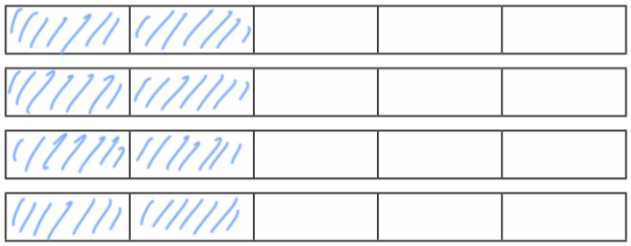
$\frac{2}{7} \times 2 = \boxed{\frac{4}{7}}$

b)



$3 \times \frac{3}{10} = \boxed{\frac{9}{10}}$

2 **a)** Shade the bar models to show $\frac{2}{5} \times 4$



b) Complete the multiplication.

$\frac{2}{5} \times 4 = \boxed{\frac{8}{5}} = 1\frac{3}{5}$

3 Complete the calculations.

a)

$\frac{1}{3} \times 1 = \boxed{\frac{1}{3}}$

$\frac{1}{3} \times 2 = \boxed{\frac{2}{3}}$

$\frac{1}{3} \times 3 = \boxed{1}$

$\frac{1}{3} \times 4 = \boxed{1\frac{1}{3}}$

$\frac{1}{3} \times 5 = \boxed{1\frac{2}{3}}$

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

b)

$\frac{3}{4} \times 1 = \boxed{\frac{3}{4}}$

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

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

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

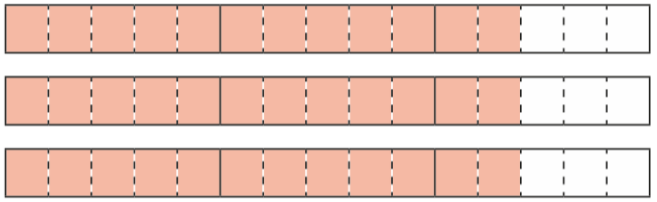
$\frac{3}{4} \times 5 = \boxed{3\frac{3}{4}}$

$\frac{3}{4} \times 6 = \boxed{4\frac{1}{2}}$

What patterns do you notice?

4 Complete the multiplication.

$2\frac{2}{5} \times 3 = \boxed{7\frac{1}{5}}$



What method did you use? Is there a different method you could have used?

5 Match the calculations.

$\frac{2}{3} + \frac{2}{3}$	$\frac{1}{2} \times 6$
$\frac{1}{4} \times 24$	$18 \times \frac{1}{4}$
$\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$	$\frac{1}{6} \times 10$
$\frac{5}{12} \times 4$	$12 \times \frac{1}{2}$
$1\frac{1}{2} \times 3$	$\frac{1}{3} \times 4$

6 Write each answer as a mixed number in its simplest form.

a) $1\frac{1}{5} \times 2 =$ ☐

b) $2\frac{1}{6} \times 3 =$ ☐

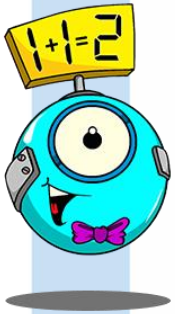
c) $2\frac{2}{5} \times 4 =$ ☐

d) $2\frac{2}{5} \times 5 =$ ☐

e) $7 \times 3\frac{1}{2} =$ ☐

f) $\frac{11}{15} \times 7 =$ ☐

CHALLENGE QUESTIONS



7 Fill in the missing numbers.

a) $2\frac{\square}{7} \times 3 = 6\frac{6}{7}$

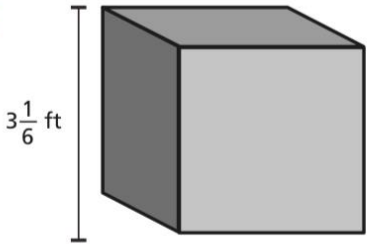
b) $2\frac{\square}{8} \times 3 = 7\frac{1}{2}$

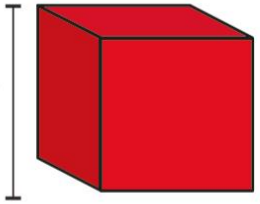
8 Tommy's dog eats $3\frac{1}{2}$ tins of food a week.

How many tins does she eat in a year?

☐

9





Jack builds a tower using grey blocks.

Alex builds a tower using red blocks.

The towers are exactly the same height.

How many blocks could they each have used?

_____

_____

5 Match the calculations.

$\frac{2}{3} + \frac{2}{3}$	$\frac{1}{2} \times 6$
$\frac{1}{4} \times 24$	$18 \times \frac{1}{4}$
$\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$	$\frac{1}{6} \times 10$
$\frac{5}{12} \times 4$	$12 \times \frac{1}{2}$
$1\frac{1}{2} \times 3$	$\frac{1}{3} \times 4$

6 Write each answer as a mixed number in its simplest form.

a) $1\frac{1}{5} \times 2 =$ $2\frac{2}{5}$

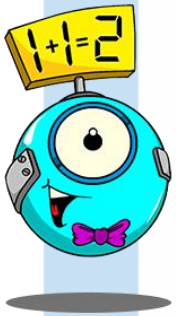
b) $2\frac{1}{6} \times 3 =$ $6\frac{1}{2}$

c) $2\frac{2}{5} \times 4 =$ $9\frac{3}{5}$

d) $2\frac{2}{5} \times 5 =$ 12

e) $7 \times 3\frac{1}{2} =$ $24\frac{1}{2}$

f) $\frac{11}{15} \times 7 =$ $5\frac{2}{15}$



CHALLENGE ANSWERS

7 Fill in the missing numbers.

a) $2\frac{\boxed{2}}{7} \times 3 = 6\frac{6}{7}$

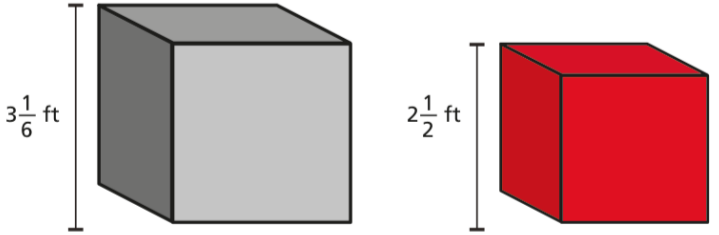
b) $2\frac{\boxed{4}}{8} \times 3 = 7\frac{1}{2}$

8 Tommy's dog eats $3\frac{1}{2}$ tins of food a week.

How many tins does she eat in a year?

182

9



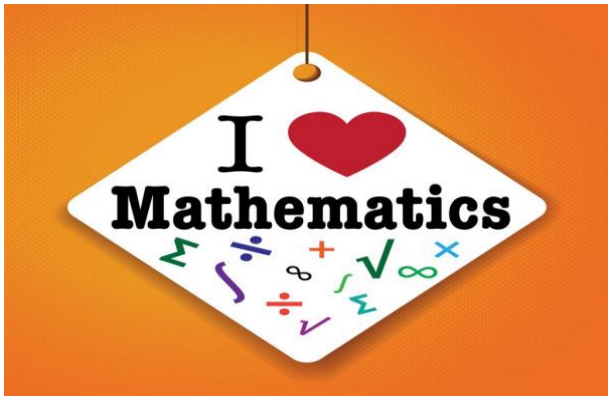
Jack builds a tower using grey blocks.

Alex builds a tower using red blocks.

The towers are exactly the same height.

How many blocks could they each have used?

Jack could use 15 and Alex use 19



Lesson 2

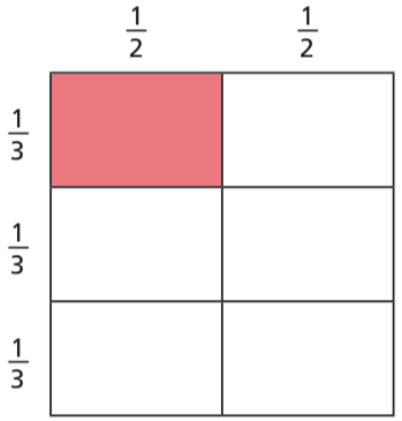
Multiply fractions by fractions

Watch video at https://vimeo.com/415879473

Answer questions on next few slides.

Multiply fractions by fractions

1 Dexter works out $\frac{1}{2} \times \frac{1}{3}$ using a grid method.

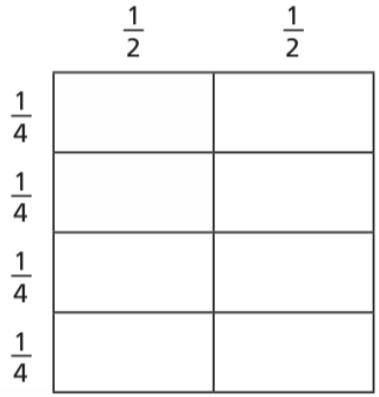


Explain how this shows $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

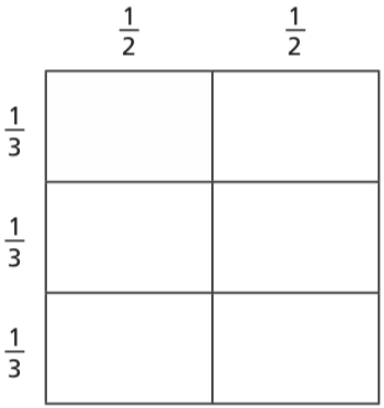
2 Shade the diagrams to show the fraction multiplications.

Complete the multiplications.

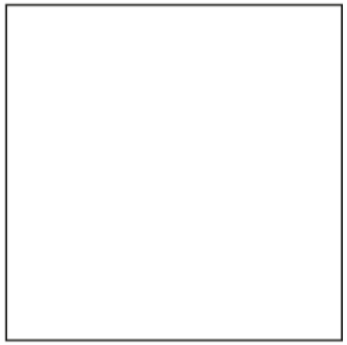
a) $\frac{1}{2} \times \frac{1}{4} = \square$



b) $\frac{1}{2} \times \frac{2}{3} = \square$



3 **a)** Divide the square to show that $\frac{2}{3} \times \frac{3}{4}$ is equal to $\frac{6}{12}$



b) Mo says $\frac{2}{3} \times \frac{3}{4}$ is equal to $\frac{1}{2}$

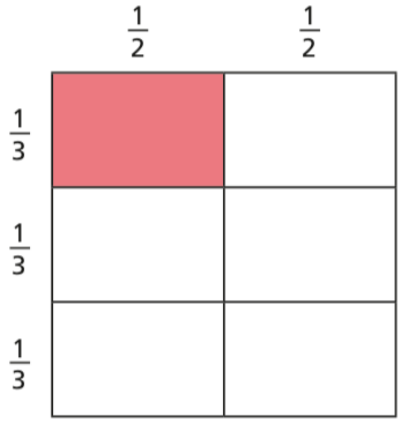
Is Mo correct? _____

Explain your answer.

_____

_____

1 Dexter works out $\frac{1}{2} \times \frac{1}{3}$ using a grid method.



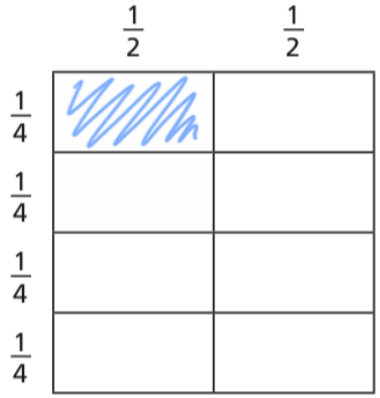
Explain how this shows $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

Split into halves vertically and thirds horizontally. $\frac{1}{6}$ of the whole shape is shaded.

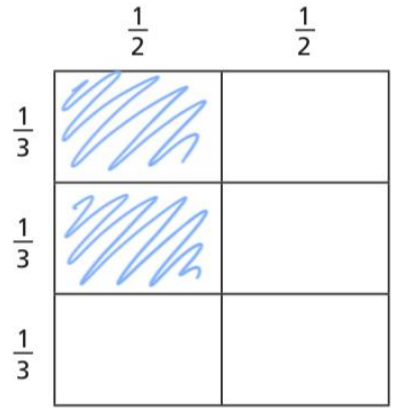
2 Shade the diagrams to show the fraction multiplications.

Complete the multiplications.

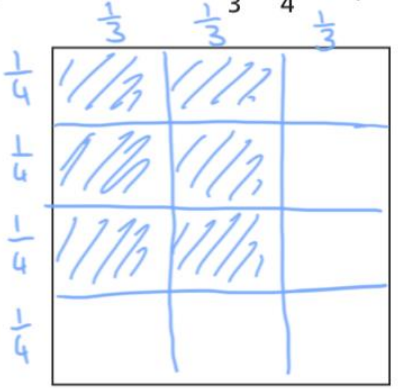
a) $\frac{1}{2} \times \frac{1}{4} =$ $\boxed{\frac{1}{8}}$



b) $\frac{1}{2} \times \frac{2}{3} =$ $\boxed{\frac{2}{6}} = \frac{1}{3}$



3 **a)** Divide the square to show that $\frac{2}{3} \times \frac{3}{4}$ is equal to $\frac{6}{12}$

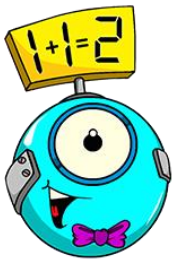


b) Mo says $\frac{2}{3} \times \frac{3}{4}$ is equal to $\frac{1}{2}$

Is Mo correct? Yes

Explain your answer.

$\frac{6}{12}$ is equivalent to $\frac{1}{2}$



CHALLENGE QUESTIONS

4 Complete the calculations.

Potsticker dumplings recipe - BBC Food

a) $\frac{1}{4} \times \frac{1}{5} = \square$

b) $\frac{1}{5} \times \frac{1}{6} = \square$

c) $\square = \frac{1}{7} \times \frac{1}{8}$

d) $\frac{1}{8} \times \frac{1}{9} \times \frac{1}{10} = \square$

e) $\frac{3}{4} \times \frac{1}{5} = \square$

f) $\frac{2}{5} \times \frac{5}{6} = \square$

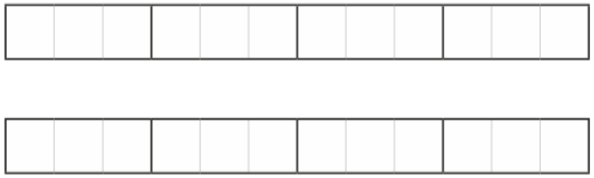
g) $\frac{5}{7} \times \frac{5}{8} = \square$

h) $\frac{3}{8} \times \frac{2}{9} \times \frac{3}{10} = \square$

5 Use the diagram to complete the calculations.

a) $\frac{1}{3}$ of $\frac{1}{4} = \square$

b) $\frac{2}{3}$ of $\frac{3}{4} = \square$



c) What do you notice about your answers?

Talk to your partner.

6 Fill in the missing numbers.

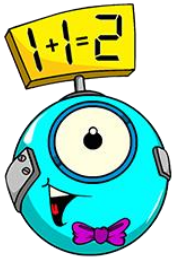
a) $\frac{1}{10} = \frac{1}{2} \times \frac{1}{\square}$

b) $\frac{1}{5} \times \frac{\square}{3} = \frac{2}{15}$

7 Fill in the missing numbers.

a) $\frac{1}{10} = \frac{\square}{4} \times \frac{\square}{5}$

b) $\frac{1}{4} = \frac{\square}{4} \times \frac{\square}{5}$



CHALLENGE ANSWERS

4 Complete the calculations.

a) $\frac{1}{4} \times \frac{1}{5} = \frac{1}{20}$

b) $\frac{1}{5} \times \frac{1}{6} = \frac{1}{30}$

c) $\frac{1}{56} = \frac{1}{7} \times \frac{1}{8}$

d) $\frac{1}{8} \times \frac{1}{9} \times \frac{1}{10} = \frac{1}{720}$

e) $\frac{3}{4} \times \frac{1}{5} = \frac{3}{20}$

f) $\frac{2}{5} \times \frac{5}{6} = \frac{1}{3}$

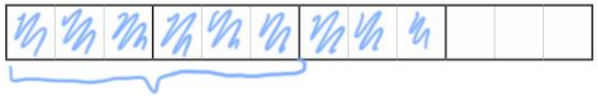
g) $\frac{5}{7} \times \frac{5}{8} = \frac{25}{56}$

h) $\frac{3}{8} \times \frac{2}{9} \times \frac{3}{10} = \frac{1}{40}$

5 Use the diagram to complete the calculations.

a) $\frac{1}{3}$ of $\frac{1}{4} = \frac{1}{12}$

b) $\frac{2}{3}$ of $\frac{3}{4} = \frac{1}{2}$



c) What do you notice about your answers?

Talk to your partner.

6 Fill in the missing numbers.

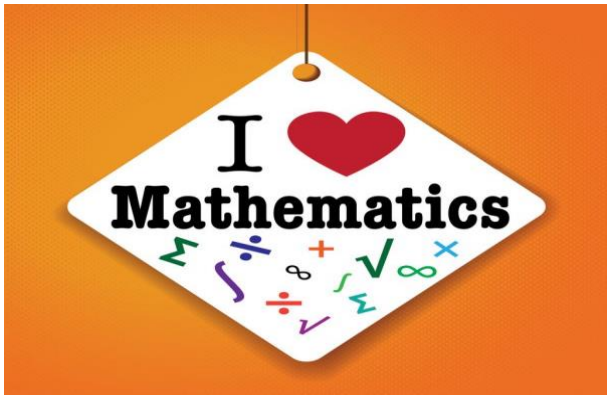
a) $\frac{1}{10} = \frac{1}{2} \times \frac{1}{5}$

b) $\frac{1}{5} \times \frac{2}{3} = \frac{2}{15}$

7 Fill in the missing numbers.

a) $\frac{1}{10} = \frac{1}{4} \times \frac{2}{5}$

b) $\frac{1}{4} = \frac{1}{4} \times \frac{5}{5}$



Lesson 3

Divide fractions by integers

Watch video at https://vimeo.com/415879537

Answer questions on next few slides.

Divide fractions by integers (2)

Maths

1

$\frac{4}{5} \div 2$ $\frac{4}{5} \div 3$

a) Write two things that are the same about the calculations.

b) Write one thing that is different about the calculations.

c) Draw a diagram to help you work out the answer to $\frac{4}{5} \div 2$

d) Draw a diagram to help you work out the answer to $\frac{4}{5} \div 3$

2 Complete the divisions using the diagrams to help you.

a) $\frac{1}{3} \div 2 =$ ☐

b) $\frac{1}{3} \div 3 =$ ☐

c) $\frac{2}{3} \div 3 =$ ☐

3 $\frac{3}{4}$ of a kilogram of rice is divided equally between two bowls.

How much rice is in each bowl?

☐

Divide fractions by integers (2)

Maths

1

$\frac{4}{5} \div 2$ $\frac{4}{5} \div 3$

a) Write two things that are the same about the calculations.

e.g. They are both divisions.
They both contain $\frac{4}{5}$

b) Write one thing that is different about the calculations.

What the fraction is being divided by.

c) Draw a diagram to help you work out the answer to $\frac{4}{5} \div 2$

$\frac{4}{5} \div 2 = \frac{2}{5}$

d) Draw a diagram to help you work out the answer to $\frac{4}{5} \div 3$

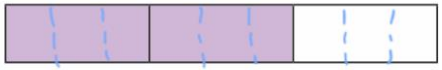
$\frac{4}{5} \div 3 = \frac{4}{15}$

2 Complete the divisions using the diagrams to help you.

a) $\frac{1}{3} \div 2 =$ $\frac{1}{6}$

b) $\frac{1}{3} \div 3 =$ $\frac{1}{9}$

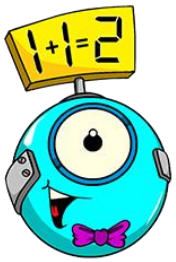
c) $\frac{2}{3} \div 3 =$ $\frac{2}{9}$



3 $\frac{3}{4}$ of a kilogram of rice is divided equally between two bowls.

How much rice is in each bowl?

$\frac{3}{8}$ kg



CHALLENGE QUESTIONS

4 Work out the divisions.

a) $\frac{1}{5} \div 7 = \square$

b) $\square = \frac{1}{6} \div 3$

c) $\frac{1}{4} \div 9 = \square$

d) $\square = \frac{1}{7} \div 6$

e) $\frac{4}{9} \div 7 = \square$

f) $\square = \frac{5}{6} \div 12$

g) $\frac{8}{3} \div 7 = \square$

h) $\square = \frac{19}{20} \div 5$

i) $\frac{1}{100} \div 25 = \square$

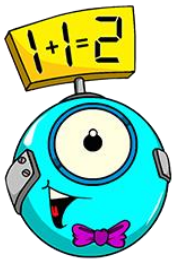
j) $\square = \frac{45}{50} \div 20$

5 Write <, > or = to complete each statement.

a) $\frac{1}{3} \div 5 \bigcirc \frac{1}{5} \div 3$

b) $\frac{1}{3} \div 3 \bigcirc \frac{1}{5} \div 5$

c) $\frac{3}{5} \div 5 \bigcirc \frac{3}{5} \div 3$



CHALLENGE ANSWERS

4 Work out the divisions.

a) $\frac{1}{5} \div 7 = \frac{1}{35}$

b) $\frac{1}{18} = \frac{1}{6} \div 3$

c) $\frac{1}{4} \div 9 = \frac{1}{36}$

d) $\frac{1}{42} = \frac{1}{7} \div 6$

e) $\frac{4}{9} \div 7 = \frac{4}{63}$

f) $\frac{5}{72} = \frac{5}{6} \div 12$

g) $\frac{8}{3} \div 7 = \frac{8}{21}$

h) $\frac{19}{100} = \frac{19}{20} \div 5$

i) $\frac{1}{100} \div 25 = \frac{1}{2,500}$

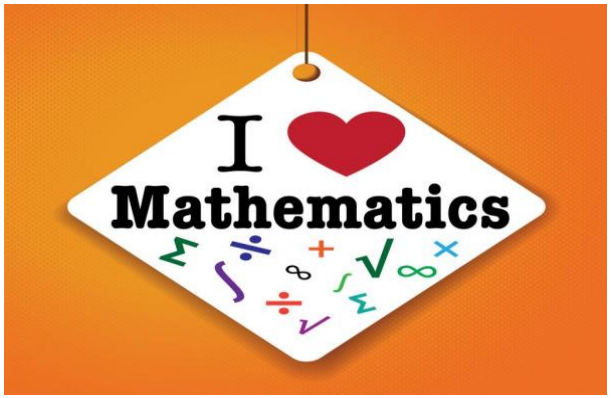
j) $\frac{9}{200} = \frac{45}{50} \div 20$

5 Write <, > or = to complete each statement.

a) $\frac{1}{3} \div 5$ (=) $\frac{1}{5} \div 3$

b) $\frac{1}{3} \div 3$ (>) $\frac{1}{5} \div 5$

c) $\frac{3}{5} \div 5$ (<) $\frac{3}{5} \div 3$



Lesson 4

Fractions of an amount

Watch video at

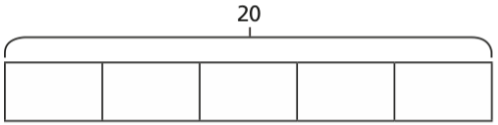
https://vimeo.com/415879623

Answer questions on next few slides

Fractions of an amount

Maths

1



a) Shade $\frac{1}{5}$ of the bar model.

b) What is $\frac{1}{5}$ of 20? ☐

2 Use your times tables knowledge to solve the calculations.

a) $\frac{1}{3}$ of 12 = ☐

b) $\frac{1}{4}$ of £20 = ☐

c) $\frac{1}{5}$ of 35 m = ☐

d) $\frac{1}{10}$ of 80 cm = ☐

e) $\frac{1}{12}$ of 60 = ☐

f) $\frac{1}{7}$ of 84 kg = ☐

Now use your answers to solve these calculations.

a) $\frac{2}{3}$ of 12 = ☐

b) $\frac{3}{4}$ of £20 = ☐

c) $\frac{3}{5}$ of 35 m = ☐

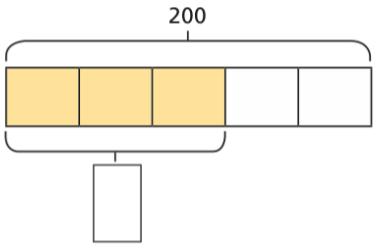
d) $\frac{7}{10}$ of 80 cm = ☐

e) $\frac{11}{12}$ of 60 = ☐

f) $\frac{6}{7}$ of 84 kg = ☐

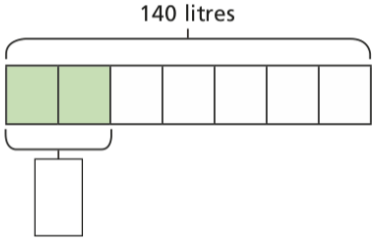
3 Calculate the missing values.

a)



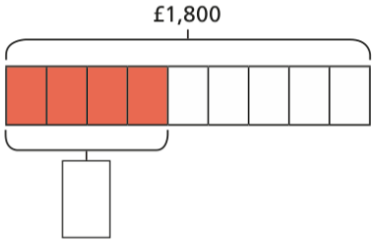
$\frac{3}{5}$ of 200 = ☐

b)



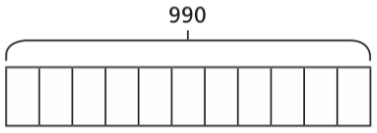
$\frac{2}{7}$ of 140 litres = ☐

c)



$\frac{4}{9}$ of £1,800 = ☐

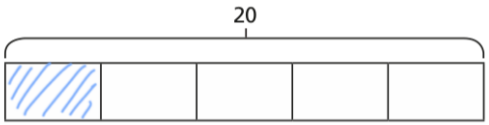
d)



$\frac{3}{11}$ of 990 = ☐

Fractions of an amount

1



a) Shade $\frac{1}{5}$ of the bar model.

b) What is $\frac{1}{5}$ of 20? 4

2 Use your times tables knowledge to solve the calculations.

a) $\frac{1}{3}$ of 12 = 4

b) $\frac{1}{4}$ of £20 = £5

c) $\frac{1}{5}$ of 35 m = 7 m

d) $\frac{1}{10}$ of 80 cm = 8 cm

e) $\frac{1}{12}$ of 60 = 5

f) $\frac{1}{7}$ of 84 kg = 12 kg

Now use your answers to solve these calculations.

a) $\frac{2}{3}$ of 12 = 8

b) $\frac{3}{4}$ of £20 = £15

c) $\frac{3}{5}$ of 35 m = 21 m

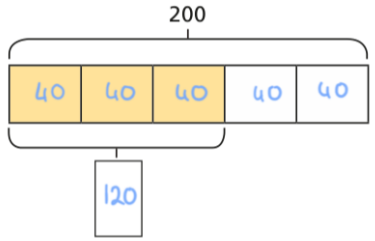
d) $\frac{7}{10}$ of 80 cm = 56 cm

e) $\frac{11}{12}$ of 60 = 55

f) $\frac{6}{7}$ of 84 kg = 72 kg

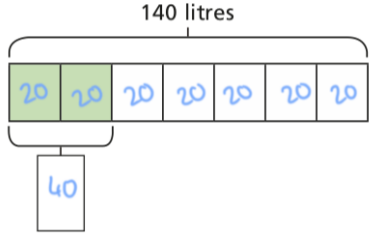
3 Calculate the missing values.

a)



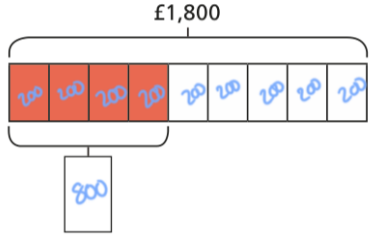
$\frac{3}{5}$ of 200 = 120

b)



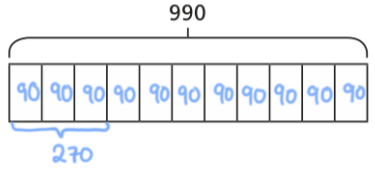
$\frac{2}{7}$ of 140 litres = 40 L

c)

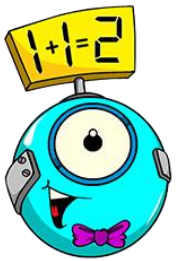


$\frac{4}{9}$ of £1,800 = £800

d)



$\frac{3}{11}$ of 990 = 270



CHALLENGE QUESTIONS

4 **a)** In a school of 480 pupils, $\frac{2}{3}$ are juniors.

How many juniors are in the school?

b) A factory makes 256 cars.

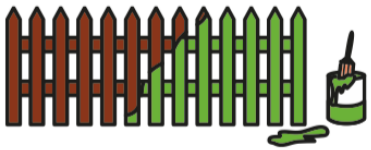
$\frac{3}{8}$ are electric cars.

How many electric cars does the factory make?

c) Brett uses $\frac{2}{5}$ of his £180 savings to buy a train ticket.

How much of his savings does he have left?

5



Alex has 288 m of fence to paint.

She paints $\frac{3}{12}$ of the whole fence on Monday. She then paints $\frac{1}{2}$ of what is left on Tuesday.

How much fence does she have left to paint?

4 **a)** In a school of 480 pupils, $\frac{2}{3}$ are juniors.

How many juniors are in the school?

320

b) A factory makes 256 cars.

$\frac{3}{8}$ are electric cars.

How many electric cars does the factory make?

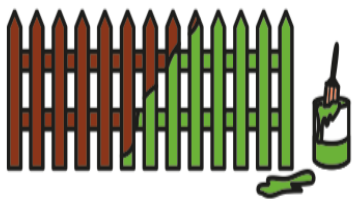
96

c) Brett uses $\frac{2}{5}$ of his £180 savings to buy a train ticket.

How much of his savings does he have left?

£108

5



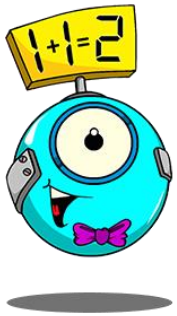
Alex has 288 m of fence to paint.

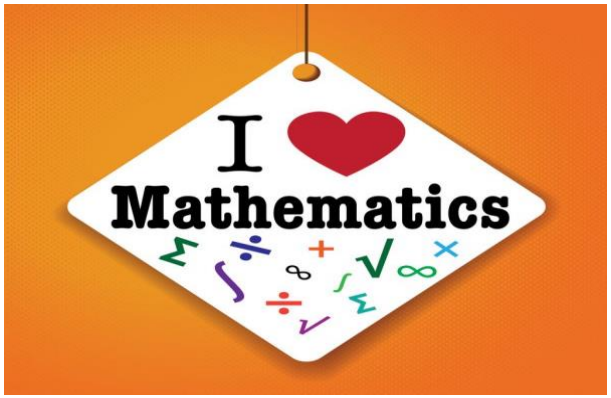
She paints $\frac{3}{12}$ of the whole fence on Monday. She then paints $\frac{1}{2}$ of what is left on Tuesday.

How much fence does she have left to paint?

108m

CHALLENGE ANSWERS



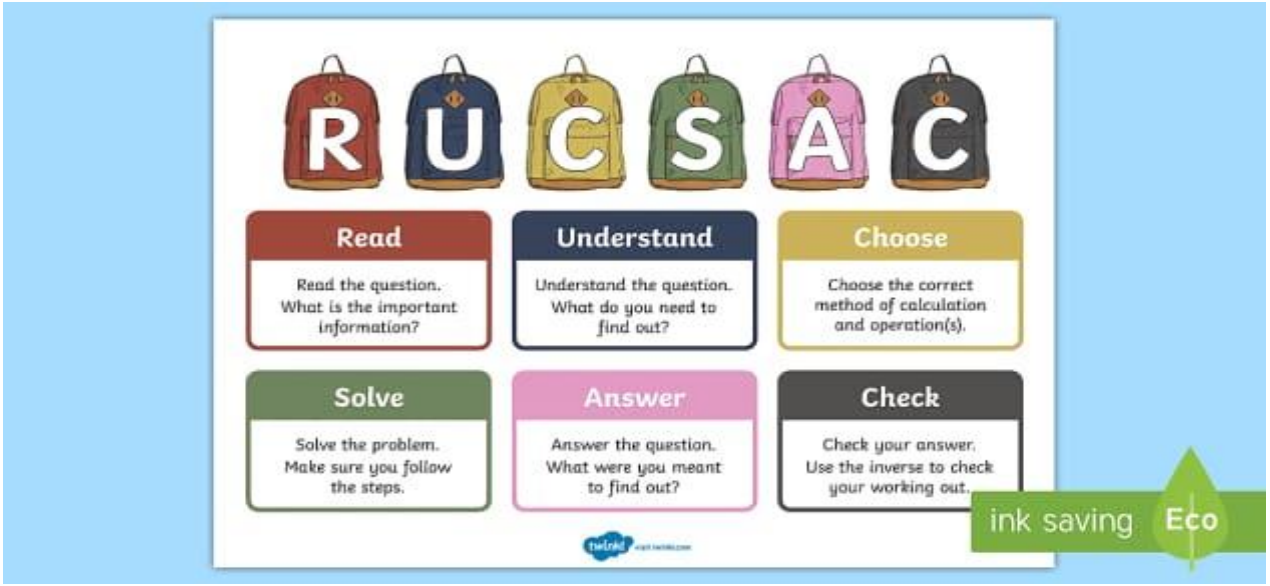


Lesson 5

Challenge

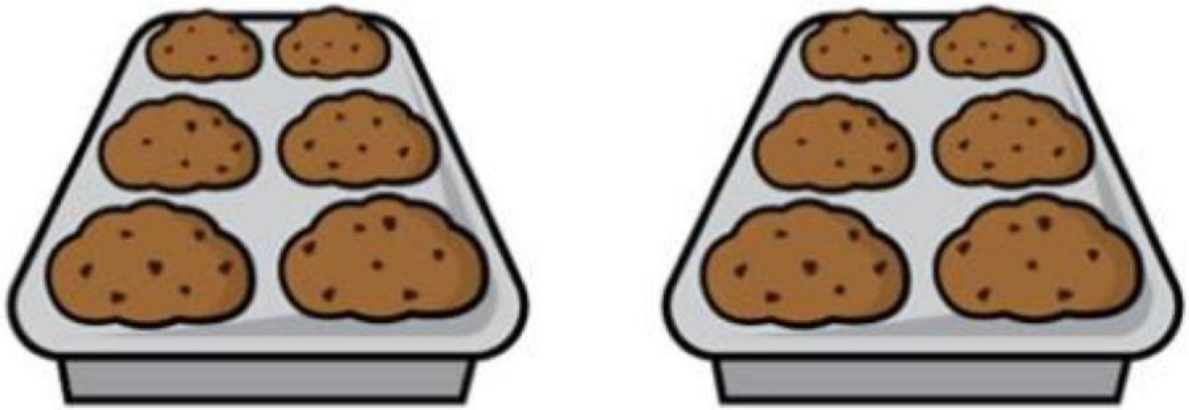
Attempt the following problems.

Remember to use RUCSAC



Challenge 1

Eric bakes these two trays of muffins.



He eats 2 muffins.

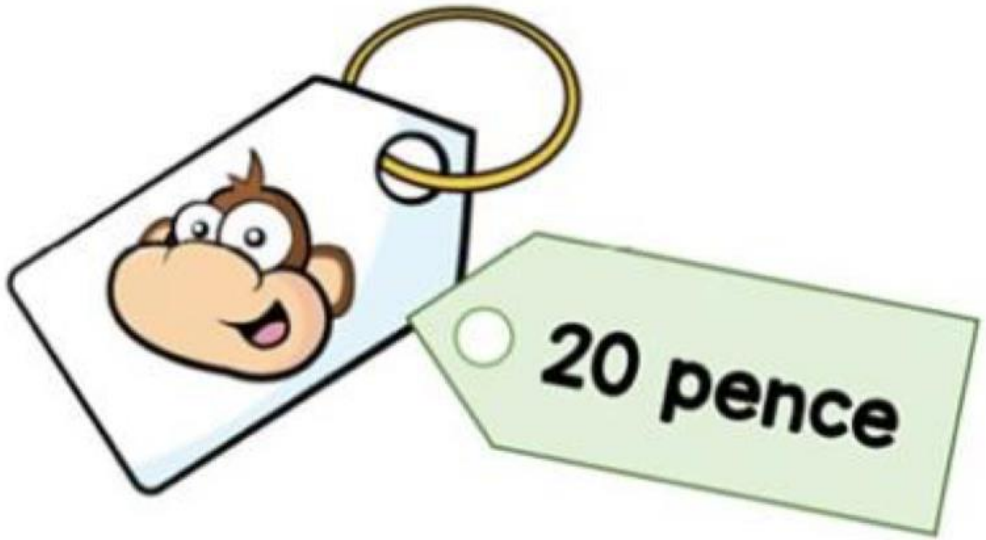
His dad eats 3 muffins.

His sister eats 4 muffins.

How many muffins does he have left?

Challenge 2

Lola buys this key ring.

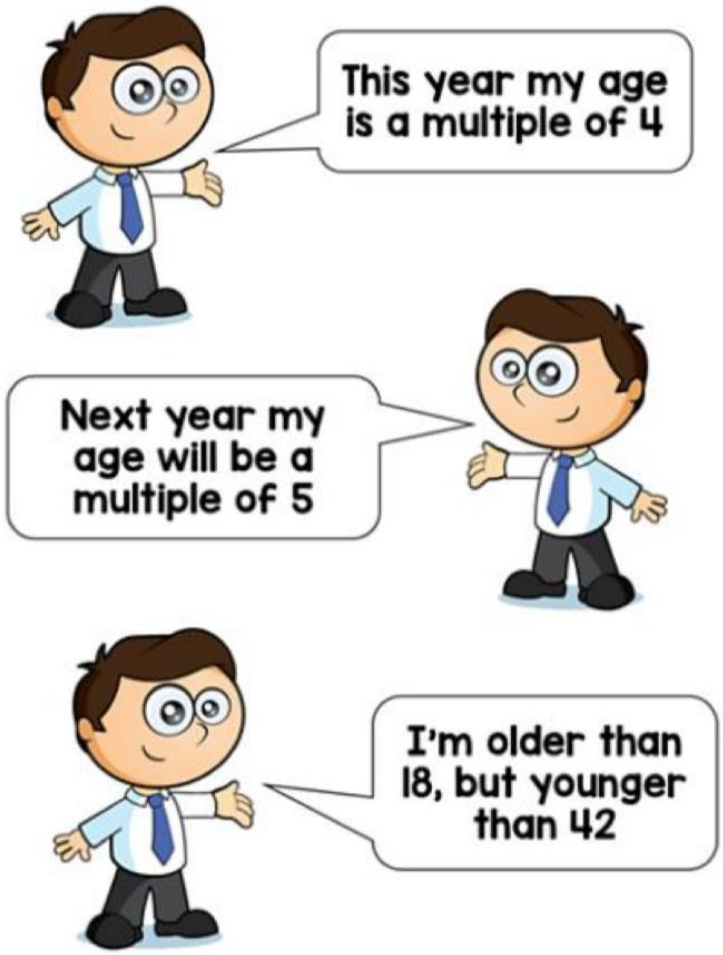


Her mum givers a quarter of the money.

She pays for the rest herself.

How much does she pay herself?

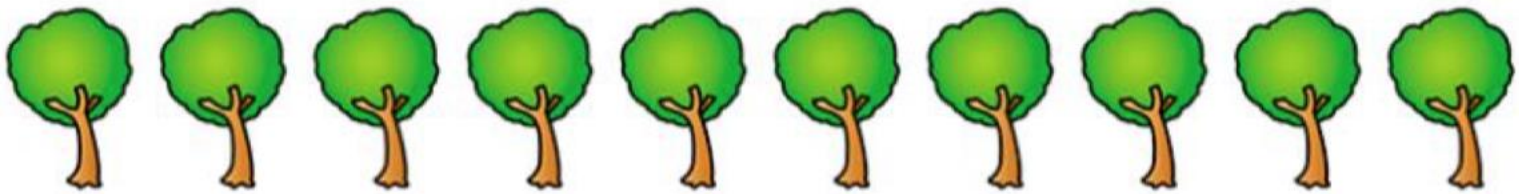
Challenge 3



How old is the teacher?

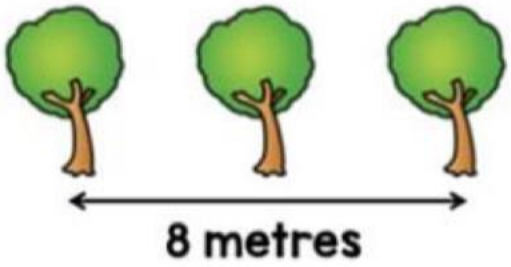
Challenge 4

Ten trees are planted in a row.



The trees are spaced out equally.

The distance between the fourth and sixth tree is 8 metres.



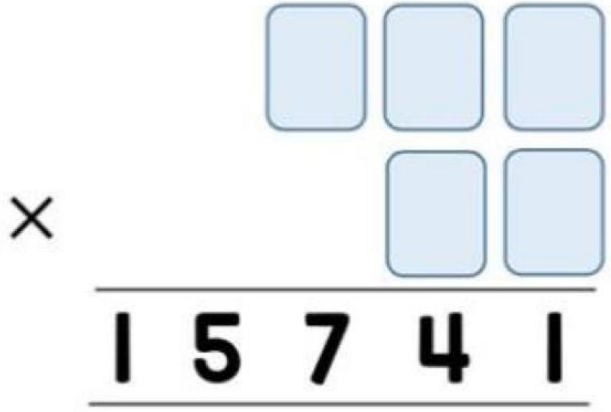
What is the distance between the first and last tree?

Challenge 5

Filip has these five digit cards.

He uses all of the cards to make a three-digit number and a two-digit numb

He multiplies the two numbers together and the answer is **15,741** .



What are the two numbers Filip makes?

Answers

Challenge 1 - 3 muffins

Challenge 2 - 15 pence

Challenge 3 - 24-years-old

Challenge 4 - 36 metres

Challenge 5 - 583 and 27