Day 1 Maths Starter

True or False?

Equivalent fractions

$$\frac{81}{126} = \frac{9}{14}$$

White Rose Maths

Day 1 Maths Starter Answer

Day 1 Maths Fractions: 4 operations

Video Link: https://vimeo.com/480708159

Remember you can look back at last week's links to remind you.

Slide 4 is aimed at 2/3 star

Slide 5 contains the answers to 2/3 star

Slide 6 is aimed at 1 star (try this one if you don't feel confident on slide 4)
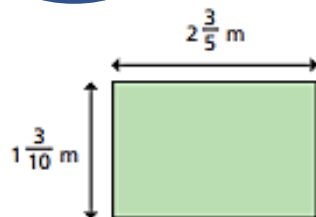
Slide 7 contains the answers to 1 star

White Rose Maths

Width X height.

Total of the 4 sides.

1 Work out the missing total.

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

Show all the steps in your working.

Explain your method to a partner.

2 Work out the perimeter of the rectangle.

$2\frac{3}{5}$ m

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

Explain your method to your partner.

Did you work it out in the same way?

3 Complete the calculations.

a) $\left(\frac{2}{3} + \frac{2}{3}\right) \times 3$ b) $\left(\frac{2}{3} + \frac{2}{3}\right) \div 3$ c) $\frac{2}{3} + \frac{2}{3} \times 3$ d) $\frac{2}{3} + \frac{2}{3} \div 3$
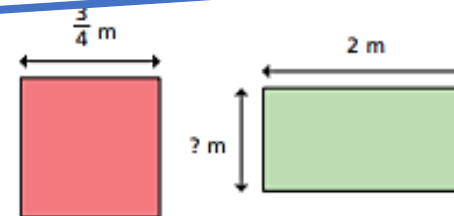
4 Jack mixes $\frac{2}{3}$ of a litre of orange juice and $\frac{3}{4}$ of a litre of apple juice.

He pours the juice into 5 glasses equally.

How much juice is in each glass?

5 The area of these two shapes are equal.

Find the height of the rectangle.

$\frac{3}{4}$ m

2 m

? m

6 In a class, $\frac{2}{3}$ of the pupils are boys.

$\frac{1}{4}$ of the girls wear glasses and $\frac{1}{6}$ of the boys wear glasses.

Do more boys or girls wear glasses?

Explain your reasoning.

7 Work out the calculation.

$\left(1\frac{3}{5} - \frac{7}{10}\right)^2$

8 Use what you know about working with fractions to explain, prove or disprove the following statements.

a) Half of a half of a half is an eighth.

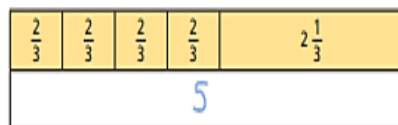b) Quarter of a half plus half of a quarter is a quarter.

9

1	2	5	6	8

$\frac{\square}{\square} \times \square + \frac{\square}{\square}$

Explore the different totals you can make using each card once only.

Four rules with fractions

1 Work out the missing total.

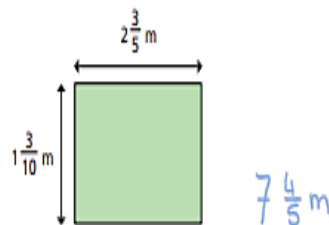| $\frac{2}{3}$	$\frac{2}{3}$	$\frac{2}{3}$	$\frac{2}{3}$	$2\frac{1}{3}$
5				

Show all the steps in your working.

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

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

Explain your method to a partner.

2 Work out the perimeter of the rectangle.

$2\frac{3}{5}$ m

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

$7\frac{4}{5}$ m

Explain your method to your partner.

Did you work it out in the same way?

3 Complete the calculations.

a) $\left(\frac{2}{3} + \frac{2}{3}\right) \times 3 = \boxed{4}$

b) $\left(\frac{2}{3} + \frac{2}{3}\right) \div 3 = \boxed{\frac{4}{9}}$

c) $\frac{2}{3} + \frac{2}{3} \times 3 = \boxed{2\frac{2}{3}}$

d) $\frac{2}{3} + \frac{2}{3} \div 3 = \boxed{\frac{8}{9}}$

4 Jack mixes $\frac{2}{3}$ of a litre of orange juice and $\frac{3}{4}$ of a litre of apple juice.
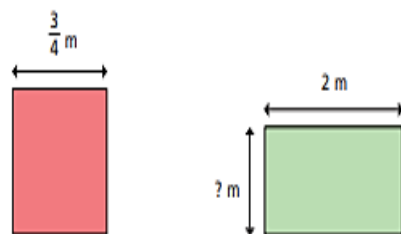
He pours the juice into 5 glasses equally.

How much juice is in each glass?

$\frac{2}{3} + \frac{3}{4} = \frac{17}{12}$
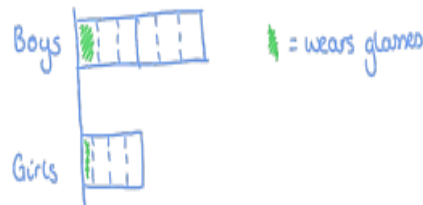
$\frac{17}{12} \div 5 = \frac{17}{60}$

$\boxed{\frac{17}{60}}$

5 The area of these two shapes are equal.

Find the height of the rectangle.

$\frac{3}{4}$ m

2 m

? m

$\boxed{\frac{9}{32}}$

6 In a class, $\frac{2}{3}$ of the pupils are boys.

$\frac{1}{4}$ of the girls wear glasses and $\frac{1}{6}$ of the boys wear glasses.

Do more boys or girls wear glasses?

Explain your reasoning.

Boys

Girls

= wears glasses

$\frac{2}{3} \times \frac{1}{6} = \frac{1}{9}$ $\frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$ $\frac{1}{9} > \frac{1}{12}$

More boys wear glasses.

7 Work out the calculation.

$\left(1\frac{3}{5} - \frac{7}{10}\right)^2$

$\boxed{\frac{81}{100}}$

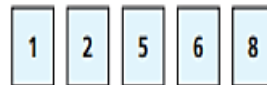**8** Use what you know about working with fractions to explain, prove or disprove the following statements.

a) Half of a half of a half is an eighth.

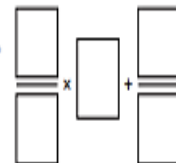$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$ This is true.

b) Quarter of a half plus half of a quarter is a quarter.

$\frac{1}{4} \times \frac{1}{2} + \frac{1}{2} \times \frac{1}{4} = \frac{1}{8} + \frac{1}{8} = \frac{2}{8} = \frac{1}{4}$ This is true.

9

1	2	5	6	8

Various answers.

$\frac{\square}{\square} \times \frac{\square}{\square} + \frac{\square}{\square}$

Explore the different totals you can make using each card once only.

1 Complete the calculations.

Use bar models to help you.

a) $\frac{4}{5} + \frac{3}{5} = \boxed{} = \boxed{}$

c) $\frac{8}{5} - \frac{6}{5} = \boxed{}$

b) $\frac{6}{5} + \frac{3}{5} = \boxed{} = \boxed{}$

d) $\frac{9}{5} - \frac{3}{5} = \boxed{} = \boxed{}$

2 Complete the calculations.

a) $\frac{4}{7} + \frac{2}{7} = \boxed{}$

f) $\frac{17}{9} - \frac{8}{9} = \boxed{} = \boxed{}$

b) $\frac{4}{7} + \frac{3}{7} = \boxed{} = \boxed{}$

g) $\frac{16}{9} - \frac{8}{9} = \boxed{}$

c) $\frac{4}{7} + \frac{4}{7} = \boxed{} = \boxed{}$

h) $\frac{7}{9} + \frac{2}{9} + \frac{8}{9} = \boxed{} = \boxed{}$

d) $\frac{8}{7} - \frac{3}{7} = \boxed{}$

i) $\frac{7}{15} + \frac{2}{15} + \frac{8}{15} = \boxed{} = \boxed{}$

e) $\frac{7}{9} + \frac{8}{9} = \boxed{} = \boxed{}$

j) $\frac{7}{15} - \frac{2}{15} + \frac{8}{15} = \boxed{}$

3 $\frac{\boxed{}}{8} + \frac{\boxed{}}{8} = \frac{13}{8}$

What could the missing numerators be?

Give six different possibilities.

4 Dora has $2\frac{3}{8}$ litres of juice.

She pours out $\frac{9}{8}$ litres of juice.

How many litres of juice does she have left?

5 Fill in the missing numerators.

a) $\frac{3}{8} + \frac{\boxed{}}{8} = \frac{13}{8}$

g) $\frac{4}{7} + \frac{\boxed{}}{7} + \frac{4}{7} = 2$

b) $\frac{13}{8} - \frac{\boxed{}}{8} = \frac{7}{8}$

h) $\frac{5}{7} + \frac{\boxed{}}{7} + \frac{5}{7} = 2$

c) $\frac{13}{8} - \frac{\boxed{}}{8} = 1$

i) $\frac{6}{7} + \frac{\boxed{}}{7} + \frac{6}{7} = 2$

d) $\frac{11}{9} + \frac{\boxed{}}{9} = \frac{22}{9} = 2\frac{\boxed{}}{9}$

j) $\frac{14}{7} + \frac{\boxed{}}{7} + \frac{4}{7} = 3$

e) $\frac{11}{9} + \frac{\boxed{}}{9} = \frac{\boxed{}}{9} = 2\frac{2}{9}$

k) $\frac{15}{7} + \frac{\boxed{}}{7} + \frac{5}{7} = 3$

f) $\frac{22}{9} - \frac{\boxed{}}{9} = \frac{\boxed{}}{9} = 2\frac{2}{9}$

i) $\frac{16}{7} + \frac{\boxed{}}{7} + \frac{6}{7} = 4$

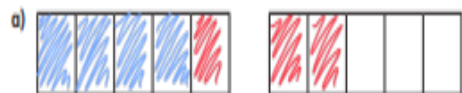Compare answers with a partner. What do you notice?

Add and subtract fractions
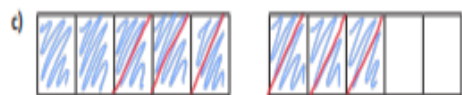
1 Complete the calculations.
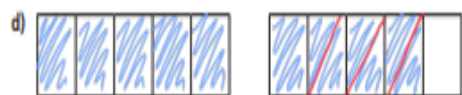
Use the bar models to help you.

a)

$$\frac{4}{5} + \frac{3}{5} = \frac{7}{5} = 1\frac{2}{5}$$

b)

$$\frac{6}{5} + \frac{3}{5} = \frac{9}{5} = 1\frac{4}{5}$$

c)

$$\frac{8}{5} - \frac{6}{5} = \frac{2}{5}$$

d)

$$\frac{9}{5} - \frac{3}{5} = \frac{6}{5} = 1\frac{1}{5}$$

2 Complete the calculations.

a) $\frac{4}{7} + \frac{2}{7} = \frac{6}{7}$

b) $\frac{4}{7} + \frac{3}{7} = \frac{7}{7} = 1$

c) $\frac{4}{7} + \frac{4}{7} = \frac{8}{7} = 1\frac{1}{7}$

d) $\frac{8}{7} - \frac{3}{7} = \frac{5}{7}$

e) $\frac{7}{9} + \frac{8}{9} = \frac{15}{9} = 1\frac{2}{3}$

f) $\frac{17}{9} - \frac{8}{9} = \frac{9}{9} = 1$

g) $\frac{16}{9} - \frac{8}{9} = \frac{8}{9}$

h) $\frac{7}{9} + \frac{2}{9} + \frac{8}{9} = \frac{17}{9} = 1\frac{8}{9}$

i) $\frac{7}{15} + \frac{2}{15} + \frac{8}{15} = \frac{17}{15} = 1\frac{2}{15}$

j) $\frac{7}{15} - \frac{2}{15} + \frac{8}{15} = \frac{13}{15}$

3

$$\frac{\Box}{8} + \frac{\Box}{8} = \frac{13}{8}$$

What could the missing numerators be?

Give six different possibilities.

e.g.

$\frac{1}{8} + \frac{12}{8} = \frac{13}{8}$ $\frac{4}{8} + \frac{9}{8} = \frac{13}{8}$

$\frac{2}{8} + \frac{11}{8} = \frac{13}{8}$ $\frac{5}{8} + \frac{8}{8} = \frac{13}{8}$

$\frac{3}{8} + \frac{10}{8} = \frac{13}{8}$ $\frac{7}{8} + \frac{6}{8} = \frac{13}{8}$

4 Dora has $2\frac{3}{8}$ litres of juice.

She pours out $\frac{9}{8}$ litres of juice.

How many litres of juice does she have left?

Dora has $1\frac{1}{4}$ litres left.

5 Fill in the missing numerators.

a) $\frac{3}{8} + \frac{10}{8} = \frac{13}{8}$

b) $\frac{13}{8} - \frac{6}{8} = \frac{7}{8}$

c) $\frac{13}{8} - \frac{5}{8} = 1$

d) $\frac{11}{9} + \frac{11}{9} = \frac{22}{9} = 2\frac{4}{9}$

e) $\frac{11}{9} + \frac{9}{9} = \frac{20}{9} = 2\frac{2}{9}$

f) $\frac{22}{9} - \frac{2}{9} = \frac{20}{9} = 2\frac{2}{9}$

g) $\frac{4}{7} + \frac{6}{7} + \frac{4}{7} = 2$

h) $\frac{5}{7} + \frac{4}{7} + \frac{5}{7} = 2$

i) $\frac{6}{7} + \frac{2}{7} + \frac{6}{7} = 2$

j) $\frac{14}{7} + \frac{3}{7} + \frac{4}{7} = 3$

k) $\frac{15}{7} + \frac{1}{7} + \frac{5}{7} = 3$

i) $\frac{16}{7} + \frac{6}{7} + \frac{6}{7} = 4$

Compare answers with a partner. What do you notice?

6 Here are some fraction cards.

$\boxed{\frac{9}{8}}$ $\boxed{\frac{13}{8}}$ $\boxed{\frac{1}{8}}$ $\boxed{\frac{7}{8}}$ $\boxed{\frac{3}{8}}$ $\boxed{1\frac{7}{8}}$

Use the cards to write pairs of fractions with a total of 2

$\boxed{1\frac{7}{8}} + \boxed{\frac{1}{8}} = 2$

$\boxed{\frac{13}{8}} + \boxed{\frac{3}{8}} = 2$

$\boxed{\frac{9}{8}} + \boxed{\frac{7}{8}} = 2$

7 Annie and Dexter both have a skipping rope.

Annie's rope is $\frac{3}{4}$ m shorter than Dexter's rope.

The ropes are $\frac{13}{4}$ m altogether.

How long is each skipping rope?

Annie's rope is $\boxed{1\frac{1}{4}}$ m long.   Dexter's rope is $\boxed{2}$ m long.