White Rose Maths Answers Lesson 1

Add 2 or more fractions

1 Complete the additions.

a) 

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

b) 

$\frac{1}{5} + \frac{3}{5} = \boxed{\frac{4}{5}}$

c) 

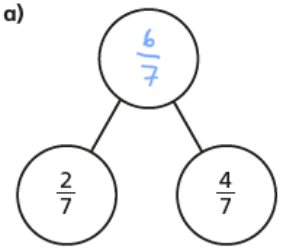
$\frac{3}{8} + \frac{3}{8} = \boxed{\frac{6}{8}}$

d) 

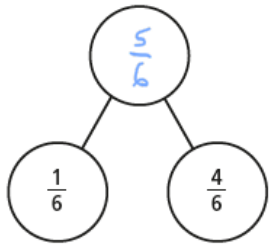
$\frac{3}{8} + \frac{1}{8} = \boxed{\frac{4}{8}}$

2 Complete the part-whole models.

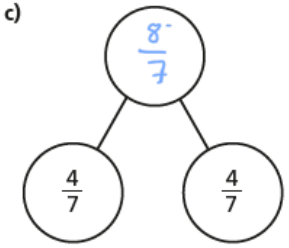
a)



b)



c)



d) Which part-whole model is the odd one out?

Explain your choice to a partner.

Did you both have the same answer?

3 Complete the additions.

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

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

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

d) $\frac{8}{5} + \frac{6}{5} = \boxed{\frac{14}{5}} = \boxed{2\frac{4}{5}}$

e) $\frac{8}{11} + \frac{6}{11} = \boxed{\frac{14}{11}} = \boxed{1\frac{3}{11}}$

f) $\frac{4}{11} + \frac{4}{11} + \frac{6}{11} = \boxed{\frac{14}{11}} = \boxed{1\frac{3}{11}}$

g) $\frac{3}{11} + \frac{3}{11} + \frac{8}{11} = \boxed{\frac{14}{11}} = \boxed{1\frac{3}{11}}$

h) $\frac{3}{7} + \frac{3}{7} + \frac{8}{7} = \boxed{\frac{14}{7}} = \boxed{2}$

4 $\frac{\square}{4} + \frac{\square}{4} = \frac{9}{4}$

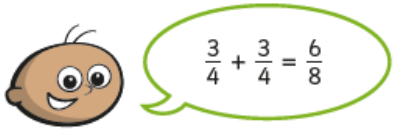
What could the missing numerators be?

Give four different possibilities.

e.g. $\frac{1}{4} + \frac{8}{4} = \frac{9}{4}$ $\quad \frac{3}{4} + \frac{6}{4} = \frac{9}{4}$

$\frac{2}{4} + \frac{7}{4} = \frac{9}{4}$ $\quad \frac{4}{4} + \frac{5}{4} = \frac{9}{4}$

5 Tommy is adding fractions.



Explain why Tommy is incorrect.

He has added the denominators when he shouldn't have. Each whole is still split into quarters so $\frac{3}{4} + \frac{3}{4} = \frac{6}{4}$

6 Complete the number sentences.

a) $\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$

b) $\frac{3}{8} + \frac{5}{8} = 1$

c) $\frac{3}{16} + \frac{13}{16} = 1$

d) $\frac{4}{9} + \frac{7}{9} = \frac{11}{9} = 1\frac{2}{9}$

e) $\frac{4}{9} + \frac{9}{9} = \frac{13}{9} = 1\frac{4}{9}$

f) $\frac{4}{9} + \frac{12}{9} = \frac{16}{9} = 1\frac{7}{9}$

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

h) $\frac{5}{7} + \frac{11}{7} + \frac{5}{7} = 3$

7 Rosie, Whitney and Teddy have each been for a walk.

Rosie walked $\frac{5}{8}$ km.

Whitney walked $\frac{7}{8}$ km.

Teddy walked $\frac{3}{8}$ km.

a) How far did they walk altogether? $1\frac{7}{8}$ km

b) Jack also went for a walk.

Altogether the four children walked 3 km.

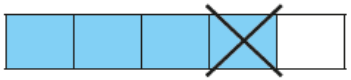
How far did Jack walk? $1\frac{1}{8}$ km

White Rose Maths Answers Lesson 2

Subtract 2 fractions

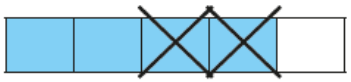
1 Complete the subtractions.

a)



$\frac{4}{5} - \frac{1}{5} = \boxed{\frac{3}{5}}$

b)



$\frac{4}{5} - \frac{2}{5} = \boxed{\frac{2}{5}}$

c)

$\frac{5}{7} - \frac{3}{7} = \boxed{\frac{2}{7}}$

d)

$\frac{7}{9} - \frac{4}{9} = \boxed{\frac{3}{9}}$

2 Complete the calculations.

a) $\frac{7}{10} - \frac{3}{10} = \boxed{\frac{4}{10}}$

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

c) $\frac{6}{6} - \frac{6}{6} = \boxed{0}$

d) $\frac{3}{4} - \frac{1}{4} = \boxed{\frac{2}{4}}$

e) $\frac{9}{11} - \frac{3}{11} = \boxed{\frac{6}{11}}$

f) $\frac{6}{7} - \frac{4}{7} = \boxed{\frac{2}{7}}$

g) $\frac{8}{93} - \frac{2}{93} = \boxed{\frac{6}{93}}$

h) $\frac{10}{991} - \frac{3}{991} = \boxed{\frac{7}{991}}$

3 Complete the subtractions

a) $\frac{9}{5} - \frac{6}{5} = \boxed{\frac{3}{5}}$

b) $\frac{9}{5} - \frac{5}{5} = \boxed{\frac{4}{5}}$

c) $\frac{9}{5} - \frac{4}{5} = \boxed{\frac{5}{5}} = \boxed{1}$

d) $\frac{9}{2} - \frac{4}{2} = \boxed{\frac{5}{2}} = \boxed{2\frac{1}{2}}$

e) $\frac{8}{3} - \frac{4}{3} = \boxed{\frac{4}{3}} = \boxed{1\frac{1}{3}}$

f) $\frac{11}{3} - \frac{4}{3} = \boxed{\frac{7}{3}} = \boxed{2\frac{1}{3}}$

g) $\frac{14}{3} - \frac{4}{3} = \boxed{\frac{10}{3}} = \boxed{3\frac{1}{3}}$

h) $\frac{15}{3} - \frac{5}{3} = \boxed{\frac{10}{3}} = \boxed{3\frac{1}{3}}$

4 Jack has $2\frac{1}{4}$ kg of potatoes.

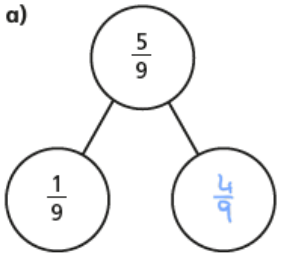
He uses $\frac{5}{4}$ kg of potatoes.

How many kilograms does he have left?

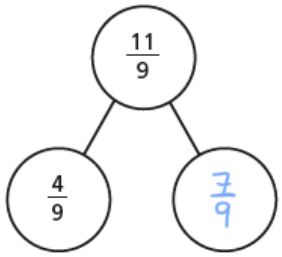
Jack has [1] kg left.

5 Complete the part-whole models.

a)

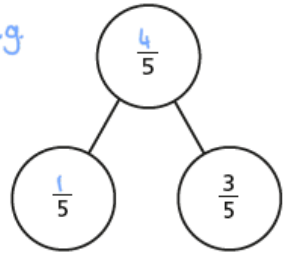


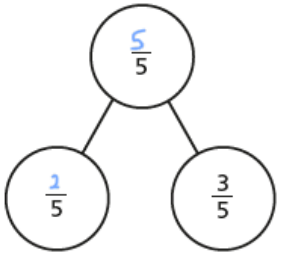
b)



6 Complete the part-whole model in two different ways.

e.g





7 Fill in the missing numerators.

a) $\frac{10}{11} - \frac{[3]}{11} = \frac{7}{11}$

b) $\frac{10}{11} - \frac{[7]}{11} = \frac{7}{11} - \frac{4}{11}$

c) $\frac{10}{11} - \frac{4}{11} = \frac{[13]}{11} - \frac{7}{11}$

d) $\frac{15}{4} - \frac{[7]}{4} = 2$

e) $\frac{9}{4} - \frac{1}{4} = \frac{[4]}{4} + 1$

f) $\frac{11}{4} - \frac{3}{4} = \frac{11}{3} - \frac{[5]}{3}$

8 Alex and Annie are taking turns playing a computer game.

Annie plays for a total of $2\frac{1}{4}$ hours.

Annie plays for $\frac{3}{4}$ of an hour more than Alex.

How much time do they spend in total playing on the game?

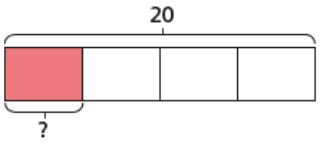
[$3\frac{3}{4}$] hours

White Rose Maths Answers Lesson 3

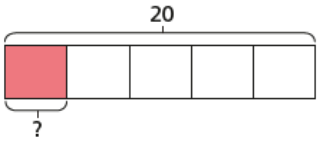
Fractions of a quantity

1 Complete the number sentences.

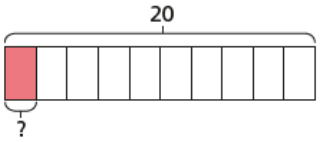
a) $\frac{1}{4}$ of 20 = 5



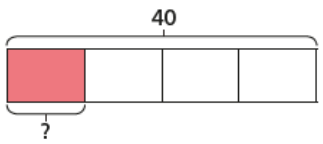
b) $\frac{1}{5}$ of 20 = 4



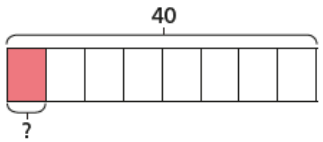
c) $\frac{1}{10}$ of 20 = 2



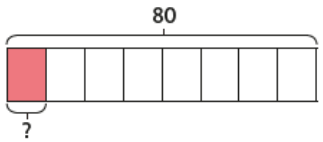
d) $\frac{1}{4}$ of 40 = 10



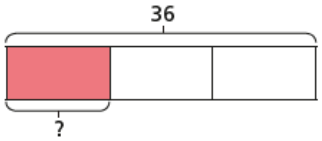
e) $\frac{1}{8}$ of 40 = 5



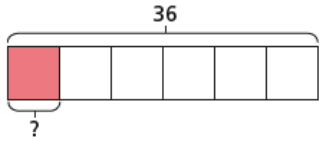
f) $\frac{1}{8}$ of 80 = 10



g) $\frac{1}{3}$ of 36 = 12

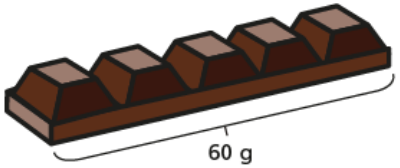


h) $\frac{1}{6}$ of 36 = 6



2 Filip has a chocolate bar with 5 equal pieces.

The chocolate bar weighs 60 g.



a) What is the mass of one piece?

The mass of one piece is 12 g.

b) Filip eats $\frac{3}{5}$ of the bar of chocolate.

How many grams does Filip eat?

Filip eats 36 g of chocolate.

3 Complete the number sentences.

a) $\frac{1}{4}$ of 24 = 6

$\frac{3}{4}$ of 24 = 18

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

$\frac{3}{7}$ of 35 = 15

$\frac{5}{7}$ of 35 = 25

c) $\frac{1}{8}$ of 32 = 4

$\frac{5}{8}$ of 32 = 20

d) $\frac{5}{8}$ of 64 = 40

$\frac{7}{8}$ of 64 = 56

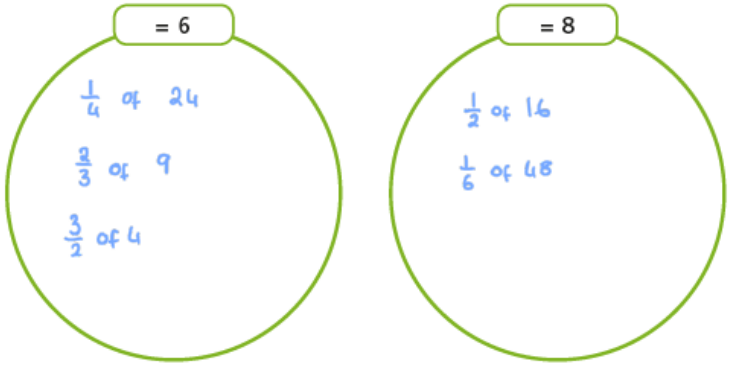
$\frac{10}{8}$ of 64 = 80

4 Match the calculations to the answers.

$\frac{2}{3}$ of 18	18
$\frac{5}{6}$ of 18	15
$\frac{9}{10}$ of 20	16
$\frac{4}{5}$ of 20	12

5 a) Write each calculation in the correct circle.

$\frac{1}{2}$ of 16 $\frac{1}{4}$ of 24 $\frac{2}{3}$ of 9 $\frac{3}{2}$ of 4 $\frac{1}{6}$ of 48



b) Write one more calculation in each circle.

6 Write <, > or = to compare the calculations.

a) $\frac{2}{7}$ of 21 < $\frac{2}{3}$ of 21

b) $\frac{3}{5}$ of 40 = $\frac{2}{3}$ of 36

c) $\frac{6}{8}$ of 40 = $\frac{3}{4}$ of 40

d) $\frac{6}{10}$ of 50 = $\frac{3}{10}$ of 100

White Rose Maths Answers Lesson 4

Calculate quantities

1 Match the calculations to the bar models.

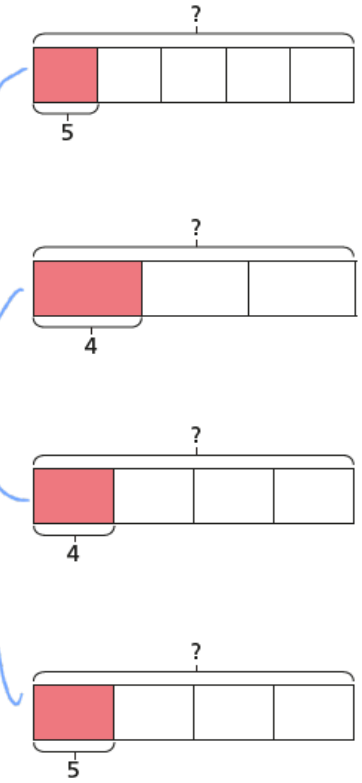
Work out the missing quantities.

$\frac{1}{4}$ of 20 = 5

$\frac{1}{4}$ of 16 = 4

$\frac{1}{5}$ of 25 = 5

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



2 Complete the sentences.

a) When one fifth is 1, the whole is 5

When one fifth is 10, the whole is 50

When one fifth is 20, the whole is 100

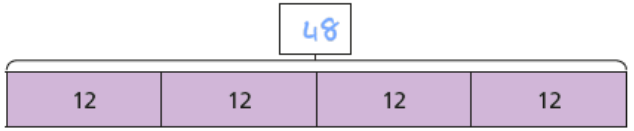
b) When $\frac{1}{7}$ is 2, the whole is 14

When $\frac{1}{7}$ is 4, the whole is 28

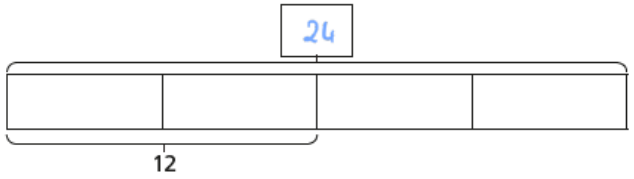
When $\frac{1}{7}$ is 8, the whole is 56

3 Complete the bar models and fill in the whole.

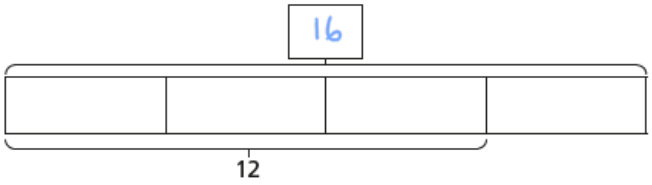
a)



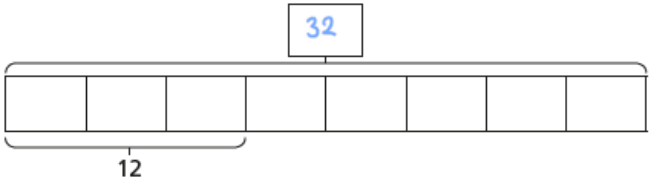
b)



c)



d)



4 Complete the calculations.

a) $\frac{1}{2}$ of [60] = 30

b) $\frac{1}{2}$ of [30] = 15

c) $\frac{1}{4}$ of [60] = 15

d) $\frac{3}{4}$ of [20] = 15

e) $\frac{3}{7}$ of [35] = 15

f) $\frac{5}{7}$ of [21] = 15

g) $\frac{5}{7}$ of [49] = 35

h) $\frac{7}{5}$ of [25] = 35

5 Dora and Mo have a full bottle of juice.

Dora drinks $\frac{2}{5}$ of the juice.

Mo drinks $\frac{1}{5}$ of the juice.

There is 150 ml of juice left in the bottle.

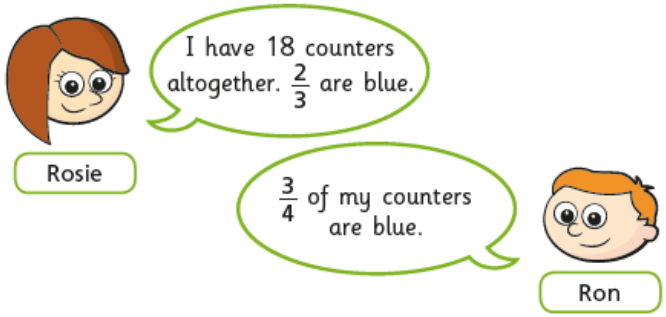
How much juice was in the full bottle?

[375] ml

6 Rosie and Ron are collecting red and blue counters.

They have the same number of blue counters.

They have a different number of red counters.



a) How many counters does Ron have altogether?

[16]

b) How many red counters do they each have?

Rosie has [6] red counters.

Ron has [4] red counters.