Year 6 Daily Maths

Weeks 1/2/3

Mr H's Group

Maths Week 1 Lesson 1

Workspace for video lesson

W1 L1 Sats Questions For work in video lesson

Q1.

Write the missing fraction.

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

1 mark

Q2.

Write the missing fractions.

$$\frac{3}{10} \ + \ \frac{3}{5} \ + \ \boxed{} \ = \ \frac{7}{5}$$

1 mark

$$\frac{5}{12} \ + \ \boxed{} \ - \ \frac{1}{6} \ = \ \frac{7}{12}$$

1 mark

Q3.

(a) Write numbers in the boxes to make this fraction calculation correct.

$$\frac{1}{\square} + \frac{\square}{5} = \frac{7}{10}$$

(b) Now write two **different** numbers to make the calculation correct.

$$\frac{1}{\square} + \frac{\square}{5} = \frac{7}{10}$$

Q4.

Sam and Ben share a pizza with their Dad.

Sam ate $\frac{1}{3}$ of the pizza.

Ben ate $\frac{1}{6}$ of the pizza.

Dad ate the rest.

What fraction of the pizza did Dad eat?

Q5.

Write the missing fractions.

$$\frac{3}{4} \times \boxed{} = \frac{9}{20}$$

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

Q6.

Complete the number sentences.

$$\frac{3}{4} \div \boxed{} = \frac{3}{12}$$

$$\boxed{} \div 5 = \frac{2}{13}$$

Q7.
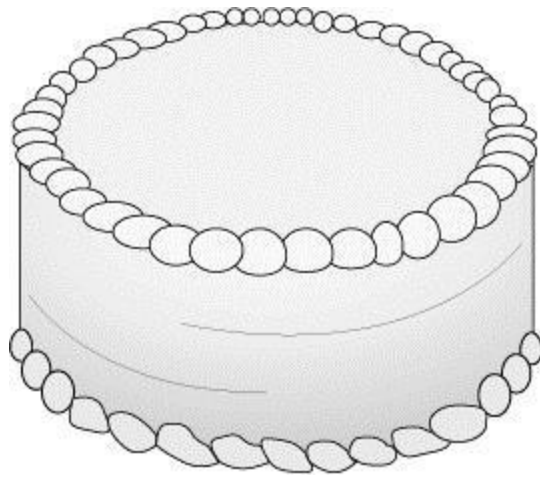
Annie ate $\frac{1}{4}$ of a cake.

Four other children shared the remainder equally.

What fraction of the cake did each of the other children get?

Show your method

2 marks

Maths Week 1 Lesson 2

Workspace for video lesson

W1 L2 Sats Questions For work in video lesson

Q1.

The numbers in this sequence increase by the same amount each time.
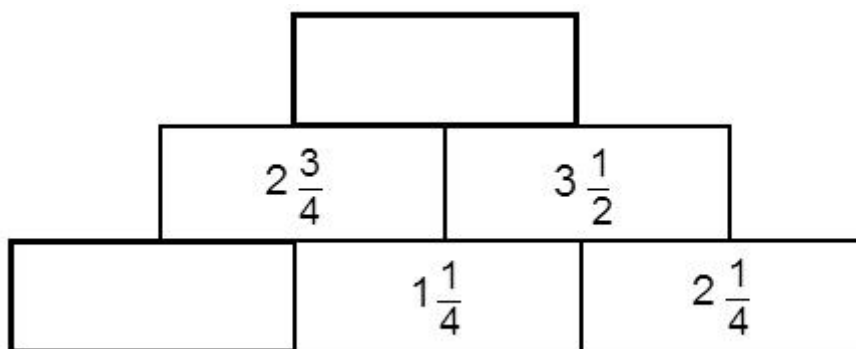
Write the missing numbers.

	1	$1\frac{5}{8}$	$2\frac{1}{4}$	

2 marks

Q2.

In this diagram, the number in each box is the **sum** of the two numbers below it.

Write the missing numbers.

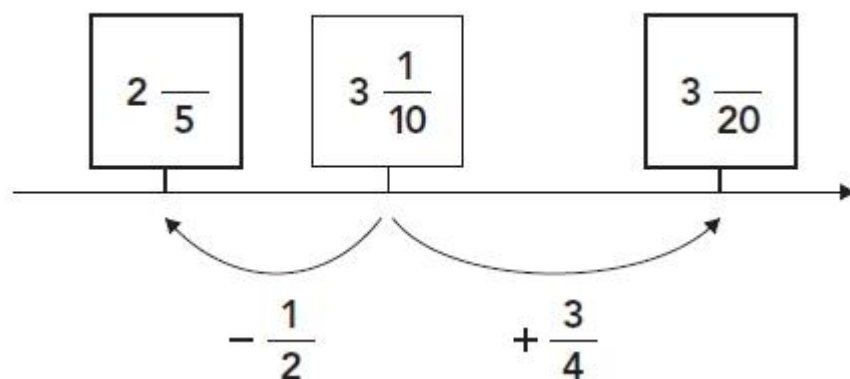2 marks

Q3.

The diagram shows part of a number line.

Two of the fractions are not complete.

Write the missing numerator in each box

$2 \dfrac{}{5}$ $3 \dfrac{1}{10}$ $3 \dfrac{}{20}$

$-\dfrac{1}{2}$ $+\dfrac{3}{4}$

2 marks

Q4.

Write the missing fractions.

$1\dfrac{3}{5}$ $+$ $\dfrac{3}{10}$ $+$ ☐ $=$ $2\dfrac{7}{10}$

1 mark

$2\dfrac{3}{4}$ $+$ ☐ $-$ $\dfrac{1}{5}$ $=$ 3

1 mark

Q5.

Grace, Ellie and Alfie bought 5 pizzas to share.

Grace ate $1\frac{1}{2}$ pizzas.

Ellie ate $1\frac{2}{3}$ pizzas.

And Alfie ate the rest.

How many pizzas did Alfie eat?

1 mark

Maths Week 1 Lesson 3

Workspace for video lesson

W1 L3 Sats Questions For work in video lesson

Q1.

50% of 48 =

1 mark

Q2.

50% of 360 =

1 mark

Q3.

25% of 80 =

1 mark

Q4.

10% of 90 =

1 mark

Q5.

40% of 30 =

1 mark

Q6.

20% of 3,000 =

| |
| |

1 mark

Q7.

20% of 35 =

| |
| |

1 mark

Q8.

60% of 765 =

| |
| |

1 mark

Q9.

36% of 450 =

| |
| |

1 mark

Q10.

7% of 500 =

| |
| |

1 mark

Q11.

15% × 1,000 =

1 mark

Q12.

15% of 250 =

1 mark

Q13.

12% of 800 =

1 mark

Q14.

51% of 900 =

1 mark

Q15.

35% of 320 =

1 mark

Q16.

55% of 400 =

$$\boxed{}$$

1 mark

Q17.

95% of 200 =

$$\boxed{}$$

1 mark

Q18.

95% of 240 =

$$\boxed{}$$

1 mark

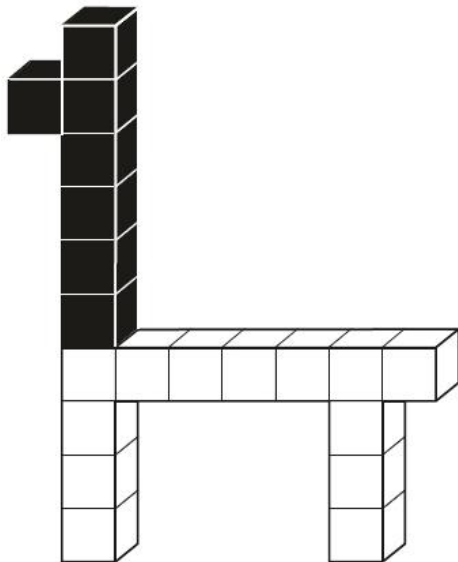**Q19.**

99% of 200 =

$$\boxed{}$$

1 mark

Reasoning Questions

Q1.

This model is made with 20 cubes.

What **percentage** of the cubes in the model is black?
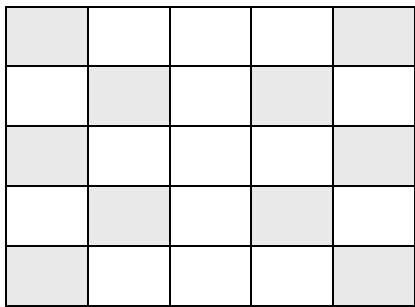
%

Q2.

20% of Megan's number is **64**

What is **50%** of Megan's number?

Show your method

Q3.

Here is a pattern on a grid.

What **percentage** of the grid is shaded?

%

1 mark

Maths Week 1 Lesson 4
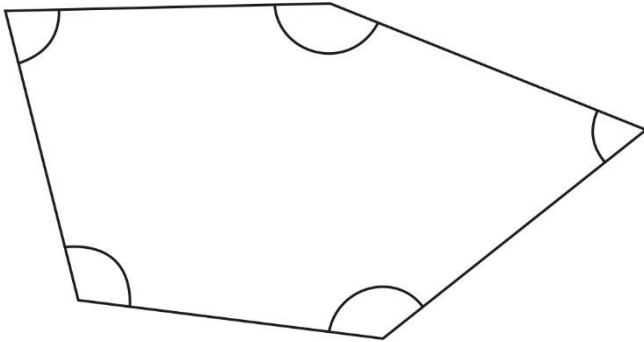
Workspace for video lesson

W1 L4 Sats Questions For work in video lesson

Q1.

Look at this shape.

Tick (✔) each angle that is **less** than a right angle.

1 mark

Q2.

Kirsty says,

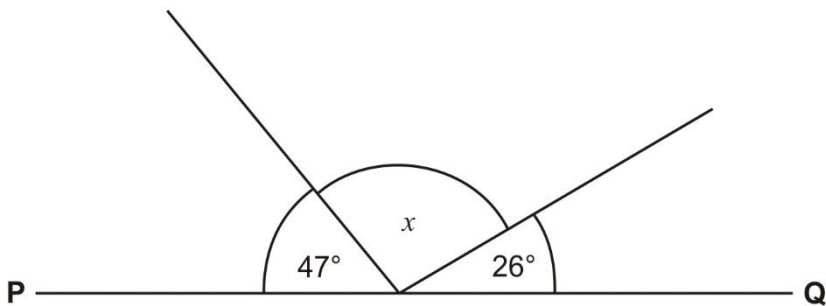When you double the size of an acute angle, you always get an obtuse angle.

Explain why Kirsty is **not** correct.

1 mark

Q3.

PQ is a straight line.

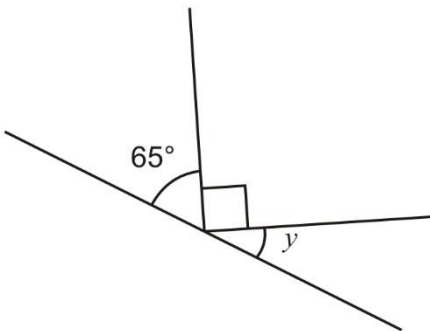Not drawn
accurately

Calculate the size of angle x.

Do **not** use a protractor (angle measurer).

1 mark

Q4.

Not to scale

Calculate the size of angle y in this diagram.

Do **not** use a protractor (angle measurer).

1 mark

Q5.

Not to scale

50°

□

p 50°

Calculate the size of angle p in the diagram.

Do **not** use a protractor (angle measurer).

Show
your
method

2 marks

Q6.

Look at this diagram.

Not to scale
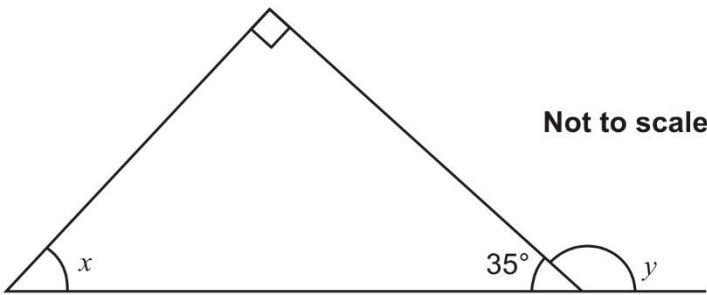
Calculate the size of angle x and angle y.

Do **not** use a protractor (angle measurer).

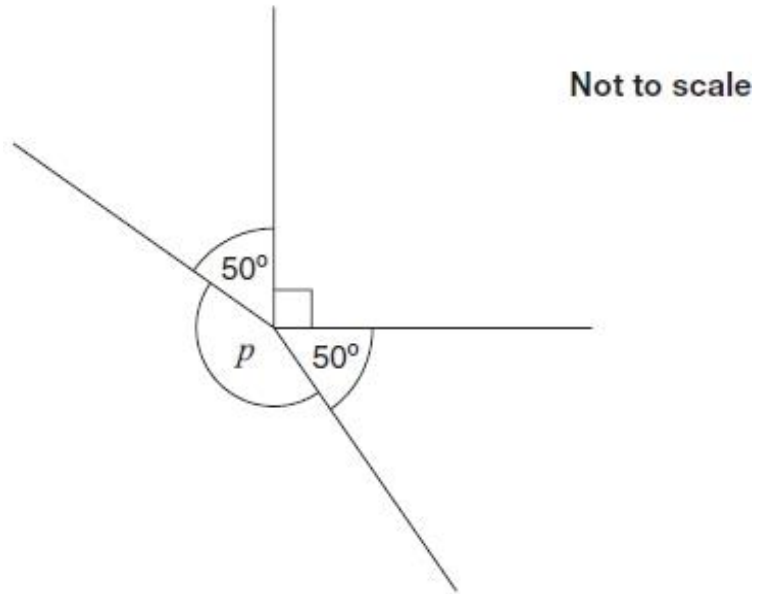$x =$ _____ °

$y =$ _____ °

Q7.

Here is an isosceles triangle.
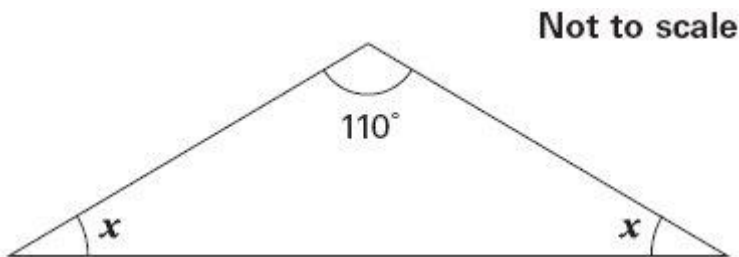
Not to scale

Calculate the size of angle x.

Do **not** use a protractor (angle measurer).

_____ °

Q8.

Calculate the size of angles a and b in this diagram.

160°

Not to scale

a

b
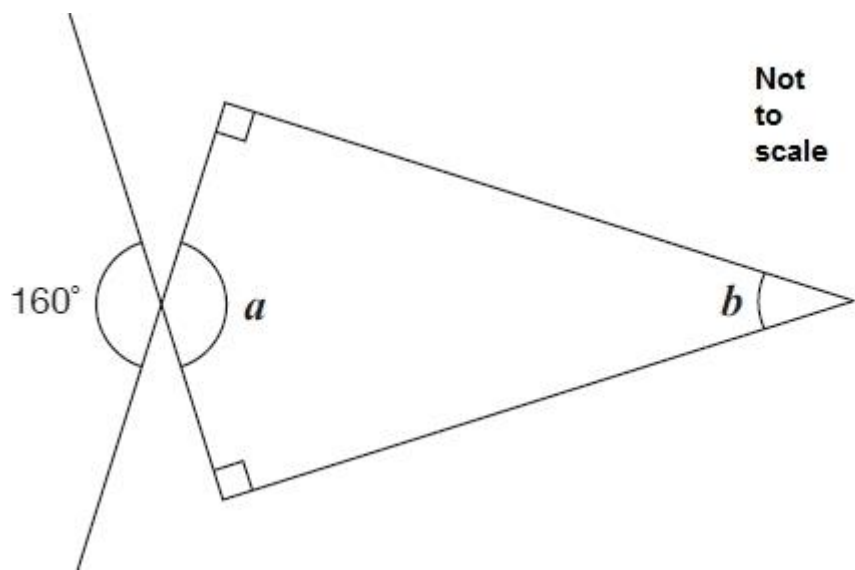
$a =$ [   ] °

1 mark

$b =$ [   ] °

1 mark

Optional challenge question - Q9.

The diagram shows an isosceles triangle and a square on a straight line.

Not to scale
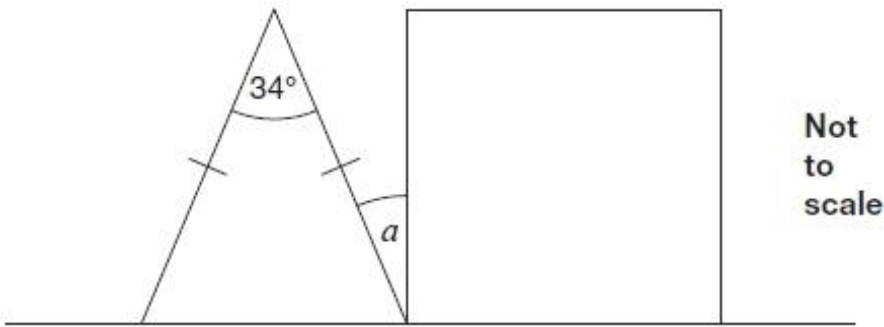
Calculate angle α.

Show your method

°

2 marks

Optional challenge question - Q10.

The diagram shows three **identical** isosceles triangles.

Not to scale
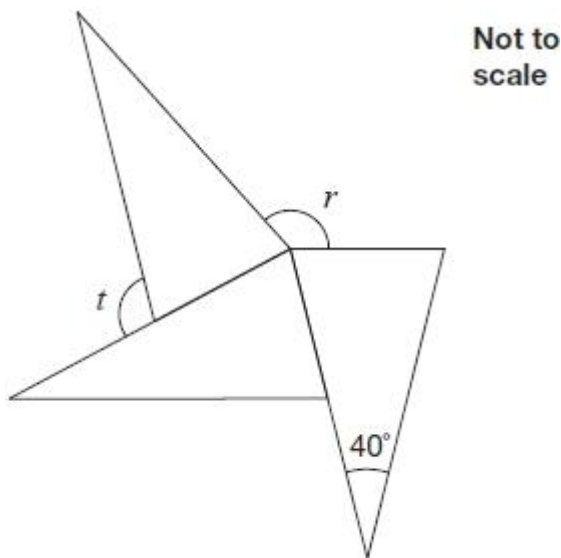
What are the sizes of angles *r* and *t*?

Show your method

r = ___ °

t = ___ °

2 marks

Maths Week 2 Lesson 1

Workspace for video lesson

W2 L1 Sats Questions For work in video lesson

Q1.

A circle has a diameter of 22 cm.

What is the length of its radius?

cm

1 mark

Q2.

A bicycle wheel has a diameter of 64 cm.

What is the **radius** of the bicycle wheel?

cm

1 mark

Q3.

Use these measurements to complete the sentences below.

8 cm	25 cm	4 cm

The radius of a circle is _____ cm;

its diameter is _____ cm and

its circumference is approximately _____ cm.

1 mark

Four large circles and five small circles fit exactly inside this rectangle.
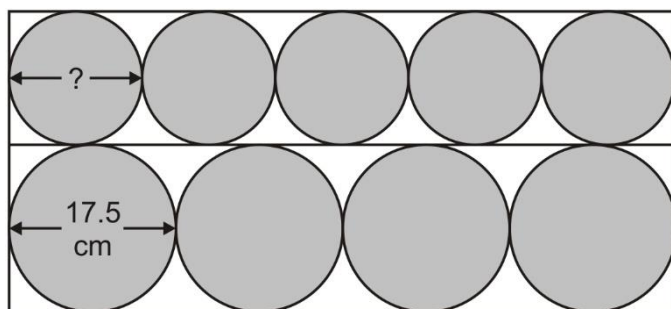
Not actual size

The **diameter** of a large circle is **17.5** centimetres.

Calculate the **diameter** of a small circle.

Show your method

[ ] cm

2 marks

Q5.

The diagram shows a **right-angled triangle** inside a **circle**.

The circle has a radius of **5 centimetres**.

C

5cm
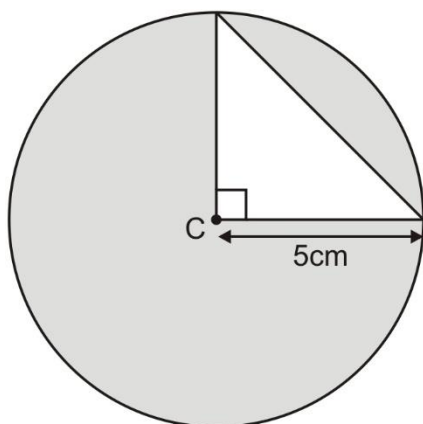
Calculate the **area** of the **triangle**.

	cm²

1 mark

Maths Week 2 Lesson 2

Workspace for video lesson

W2 L2 Sats Questions For work in video lesson

Q1.

Write in the missing digits to make this correct.

$$\begin{array}{cccc} \boxed{} & 4 & \boxed{} \\ \times & & 6 \\ \hline 2 & 0 & 5 & 2 \\ \hline \end{array}$$

2 marks

Q2.

Complete the number sentences.

$340 \div 7 = \boxed{}$ remainder $\boxed{}$

1 mark

$\boxed{} \div 3 = 295$ remainder 2

1 mark

Q3.

Mina has **5 more** marbles than Kirsty.

Kirsty has **2 more** marbles than Seb.

Altogether they have **30** marbles.

How many marbles does each child have?

Show your method

| Mina | Kirsty | Seb |

2 marks

Q4.

Mrs Jones prints books.

PRINT CHARGES

3p per page

75p for the cover
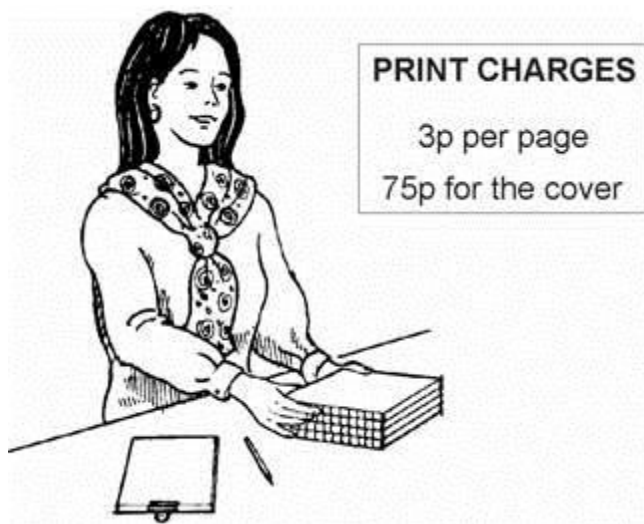
Jon pays **£4.35** for his book, **including the cover.**

How many **pages** are in his book?

Show your method

2 marks

Q5.

Here is the cost of pizzas.

PIZZAS	Small	Medium
Ham	£4.20	£5.50
Salami	£4.40	£5.75
Mushroom	£4.50	£6.00
Cheese	£3.80	£4.95
Tuna	£4.25	£5.40
Extra tomato	50p	
Extra cheese	60p	

Jill orders **one small cheese** pizza with **extra tomato.**

What is the **total** cost?

£

1 mark

Ben buys **one small** pizza and **one medium** pizza.
They cost him **£10**

Which **two** could they be?

one **small** _____ pizza

<u>and</u> one **medium** _____ pizza

1 mark

Q6.

Lara had some money.

She spent £1.25 on a drink.

She spent £1.60 on a sandwich.

She has **three-quarters** of her money left.

How much money did Lara have to **start with**?

Show your method

£

2 marks

Q7.

A shop sells jars of honey and honey dippers.

Chen bought **three** jars of honey and a dipper.

The total cost was £5.40

The dipper cost 75p.

How much did each jar of honey cost?

Show your method

2 marks

Maths Week 2 Lesson 3

Workspace for video lesson

W2 L3 Sats Questions

Q1.

$$5,542 \div 17 = 326$$

Explain how you can use this fact to find the answer to **18 × 326**
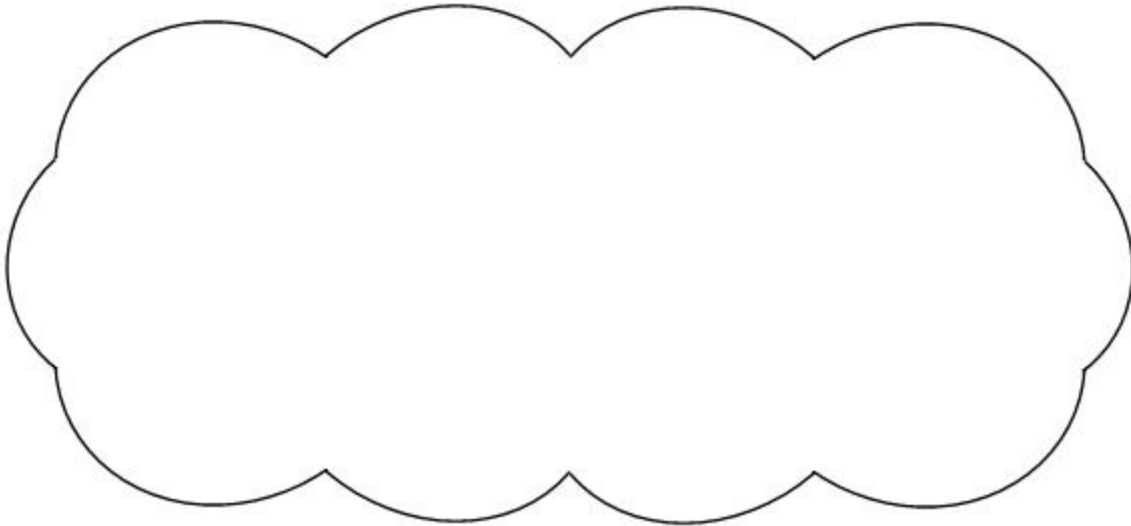
1 mark

Q2.

Liam thinks of a number.
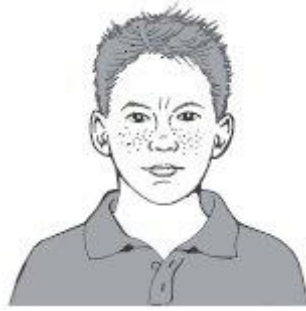
He divides it by 9 and then adds 25 to the result.

His answer is 36

What number did Liam start with?
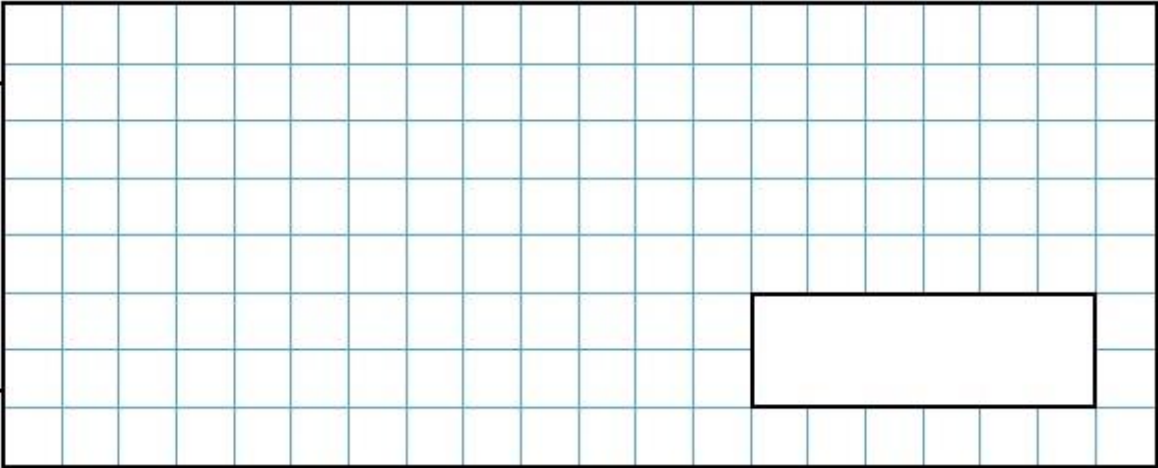
Show your method

2 marks

Q3.

Jack chose a number.

He multiplied the number by 7

Then he added 85

His answer was 953

What number did Jack choose?

Show your method
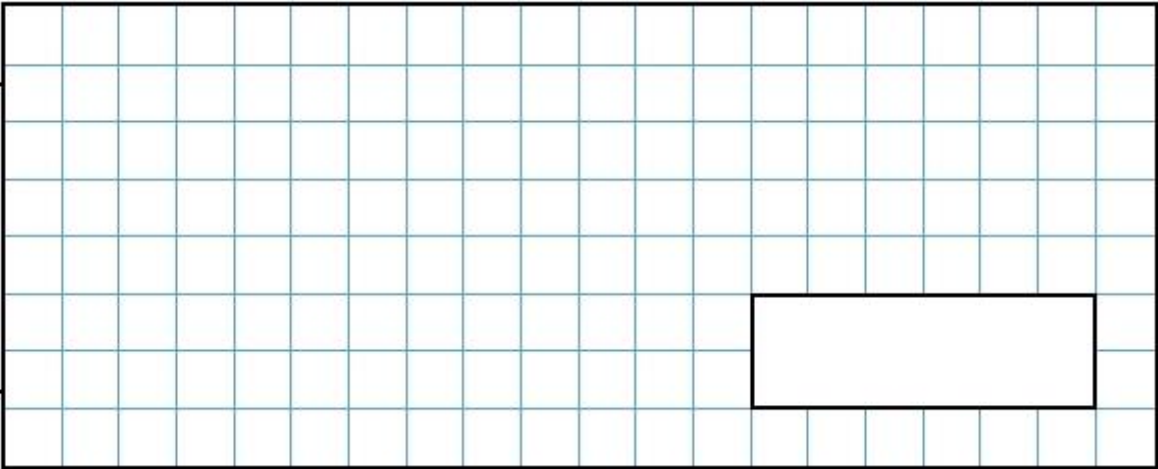
2 marks

Q4.

Lara chooses a number less than 20

She divides it by 2 and then adds 6

She then divides this result by 3

Her answer is 4.5

What was the number she started with?

Show your method

2 marks

Q5.

Amy thought of a number.

She added 0.5 to her number and then doubled the result.

Then she subtracted 0.5 and doubled the new result.

Her final answer was 61

What number did Amy start with?

Show your method

2 marks

Q6.

Lara chooses a number less than 100

She divides it by 3 and then subtracts 11

She then divides this result by 2

Her answer is 10.5

What was the number she started with?

Show your method

Q7.

A sequence of numbers starts at 11 and follows the rule

'double the last number and then subtract 3'

11   19   35   67   131 ...

The sequence continues.

The number 4099 is in the sequence.

Calculate the number which comes immediately **before 4099** in the sequence.

Show
your
method

2 marks

Maths Week 2 Lesson 4

Workspace for video lesson

W2 L4 Sats Questions For work in video lesson

Q1.

Here is a drawing of a model car.
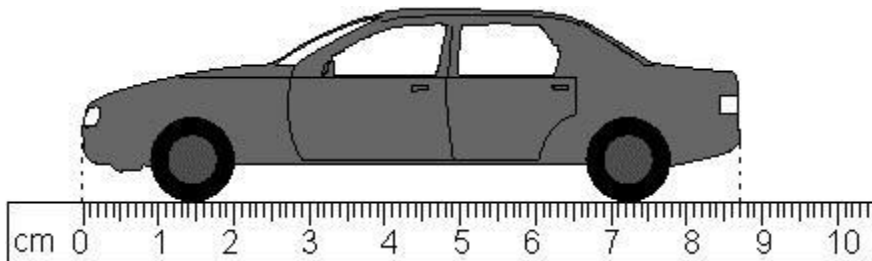
What is the **length** of the model?

Give your answer in **centimetres**, correct to one decimal place.

cm

1 mark

The height of the model is **2.8 centimetres**.

The height of the real car is **50** times the height of the model.

What is the **height** of the **real car**?

Give your answer in **metres**.

Show your method

metres

2 mark

Q2.

Freddie is half as tall as his mother.

Freddie is one metre shorter than his father.

Freddie's father is 180 centimetres tall.

How many centimetres tall is Freddie's mother?

	cm

1 mark

Q3.

Max jumped **2.25 metres** on his **second** try at the long jump.

This was **75 centimetres** longer than on his **first** try.
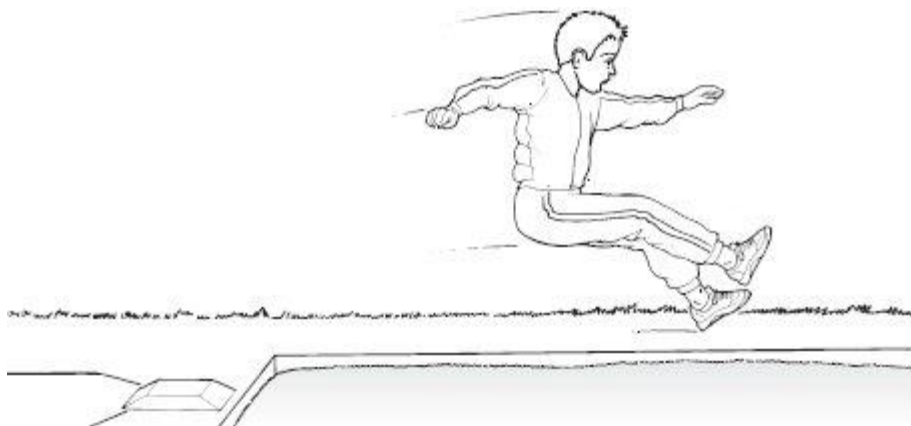
How far **in metres** did he jump on his **first** try?

	m

1 mark

Q4.

Here is some flour on a weighing scale.
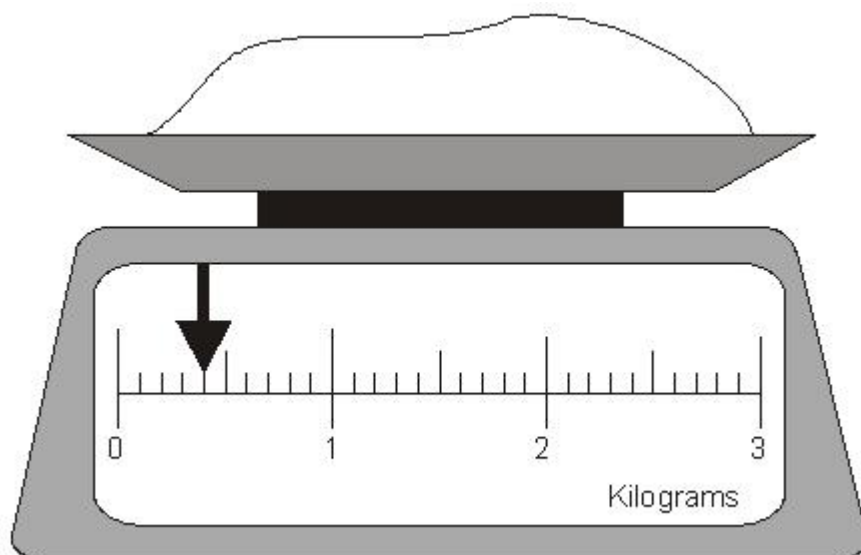
How many **grams** of flour are on the scale?

g

1 mark

How much more flour must be added to the scale to make 1.6 kg?

1 mark

Q5.

Chen and Megan each have a parcel.

Chen's parcel weighs 1$\frac{1}{2}$ kg.

Megan's parcel weighs 1.2 kg

How many more **grams** does Chen's parcel weigh than Megan's parcel?

g

2 marks

Q6.

Jamie takes three parcels to be posted.
One parcel has a mass of 750 g
Another weighs 2.8 kg

The total mass of the three parcels is 5.13 kg
What is the mass of the third parcel?

Show your method

kg

2 marks

Q7.

There are 28 pupils in a class.

The teacher has 8 litres of orange juice.

She pours 225 millilitres of orange juice for every pupil.

How much orange juice is left over?

3 marks

Q8.

1 gallon is 4.546 litres.

How many litres are needed to fill a 10 gallon tank?

litres

1 mark

Maths Week 3 Lesson 1

Workspace for video lesson

W3 L1 Sats Questions

Q1.

k stands for a number.

Complete the number sentences below.

One has been done for you.

5 more than k is $\underline{\quad k + 5 \quad}$

2 less than k is $\underline{\qquad\qquad}$

3 more than twice k is $\underline{\qquad\qquad}$

6 more than half of k is $\underline{\qquad\qquad}$

2 marks

Q2.

Look at these equations.

$$a = 2b$$

$$b = 3c$$

Which equation below is also true?

Put a ring round the correct one.

$$b = 2a \qquad a = 2b + 3c \qquad a = 5c$$

$$a = 6c \qquad a + b = 5$$

1 mark

Q3.

$n = 22$

What is $2n + 9$?

<div style="border:1px solid;width:200px;height:80px"></div>

$2q + 4 = 100$

Work out the value of q.

$q =$ <div style="border:1px solid;width:200px;height:80px"></div>

Q4.

Write the missing numbers so that $2a + 5b = 30$

One is done for you.

$2a + 5b = 30$ when $a = 0$ and $b =$ ___6___

$2a + 5b = 30$ when $a = 5$ and $b =$ _____

$2a + 5b = 30$ when $a = 15$ and $b =$ _____

Q5.

Here is an equation.

$$m - 2n = 10$$

When $n = 20$ what is the value of m?

$m =$ _____

When $m = 20$ what is the value of n?

$n =$ _____

Maths Week 3 Lesson 2

Workspace for video lesson

W3 L2 Sats Questions

Q1.

Find the value of t in this equation.

$$33 - 8t = 15$$

Show your method

2 marks

Q2.

What is the value of u in this equation?

$$5u - 10 = u + 46$$

Show your method

2 mark

Q3.

Find the value of **u** in this equation.

$$7 + 4u = 70 - 3u$$

Show your method

2 mark

Q4.

Find the value of y in the equation.

$$8 + y = 7 + 5y$$

Show your method

cm

2 mark

Q5.

Solve this equation.

$$7y + 12 = 5y + 40$$

Show your method

$y =$

2 marks

Q6.

Here are three equations.

$$a + b + c = 30$$

$$a + b \qquad = 24$$

$$\qquad b + c = 14$$

What are the values of a, b and c?

$a =$ 　　　　　 $b =$ 　　　　　 $c =$

2 marks

Maths Week 3 Lesson 3

Workspace for video lesson

W3 L3 Sats Questions For work in video lesson

Q1.

This is a scale drawing of a pond.

Scale

1cm to 2m
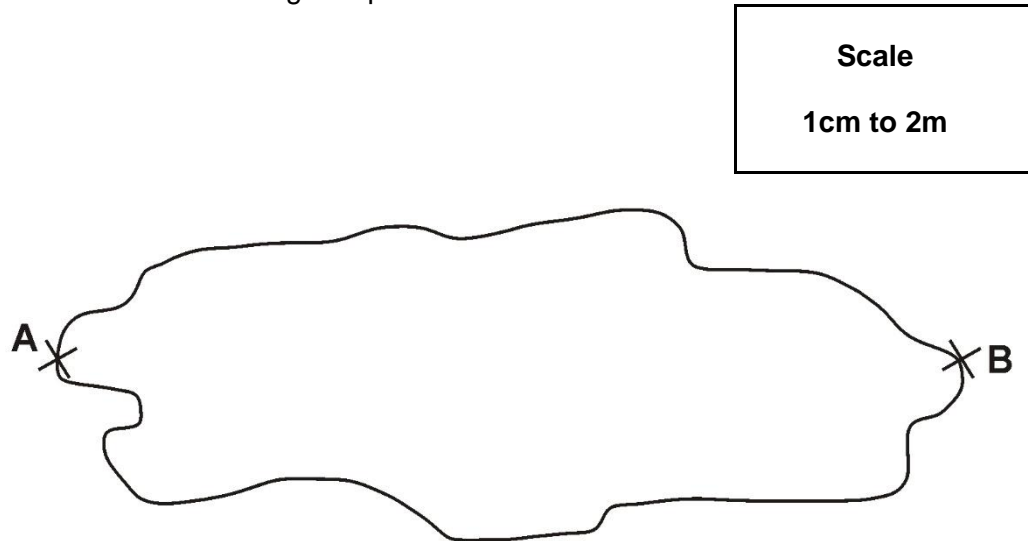
(a)   **Use a ruler** to measure the distance across the drawing from A to B

cm

1 mark

(b)   **Use the scale** to work out the **actual distance** across the pond from A to B.

m

1 mark

Q2.

This map has a scale of **1 centimetre to 6 kilometres.**
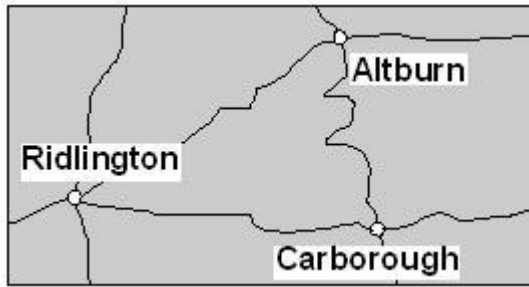
The road from Ridlington to Carborough measured **on the map** is **6.6 cm** long.

What is the length of the road in **kilometres?**

Show your method

```
km
```

2 marks

Q3.

Chen is cooking some pasta.

The recipe says he needs 350 grams of pasta for 4 people.

How many **kilograms** of pasta does he need for **12 people**?

2 marks

Q4.

Here is a recipe for pasta sauce.

Pasta sauce

300g   tomatoes

120g   onions

75g   mushrooms
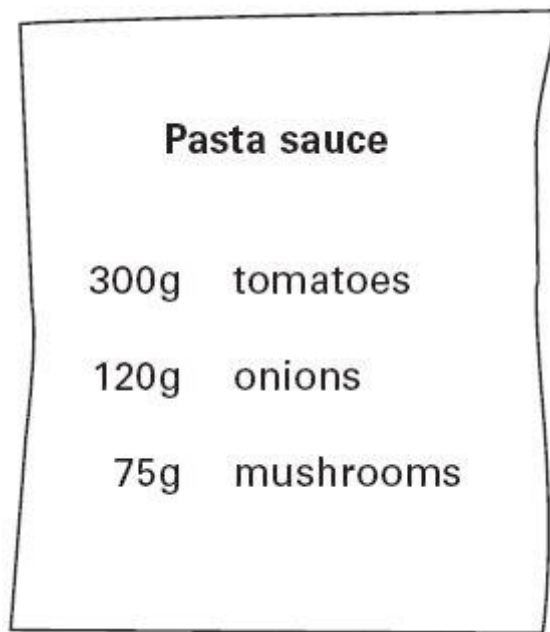
Josh makes the pasta sauce using **900 g** of **tomatoes**.

What weight of **onions** should he use?

g

1 mark

Q5.

Here is a recipe for fruit smoothies.

Recipe

10 strawberries

$\frac{1}{2}$ litre of orange juice

250ml yogurt

1 banana

Makes two smoothies

Stefan uses the recipe to make smoothies.
He uses 1 litre of yogurt.

How many strawberries does he use?

1 mark

Amir uses the same recipe.

He wants to make 5 smoothies.
He has 1 litre of orange juice.

How many **more** millilitres of orange juice does he need?

Show your method

ml

2 marks
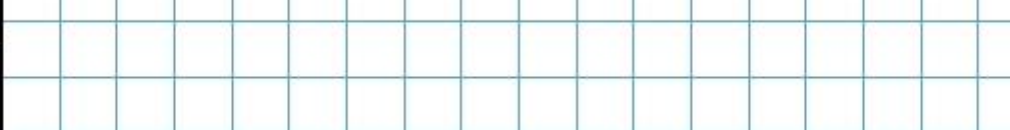
Q6.

Peanuts cost **60p** for **100 grams**.

What is the cost of **350 grams** of peanuts?

Show your method

2 mark

Q7.

Here are the ingredients for fish pie for **two people.**

Fish pie

(for 2 people)

250 g fish
400 g potato
25 g butter

Omar makes fish pie for **3 people.**

How many **grams of fish** should he use?

Show your method

g

2 marks

Q8.

Here is a recipe for raspberry ice cream.

rasberry ice cream
for 8 people

$\frac{1}{2}$ litre of cream

1kg rasberries

250g sugar

This recipe is for **8 people**.

Josie makes enough raspberry ice cream for **12 people**.

How much **cream** does she use?

litre

Fred makes raspberry ice cream in the same way.

He uses **2½ kg** of **raspberries**.

How much **sugar** does he use?

Show your method

g

Maths Week 3 Lesson 4

Workspace for video lesson

W3 L4 Sats Questions For work in video lesson

Q1. These patterns are drawn on square grids.
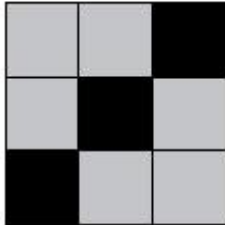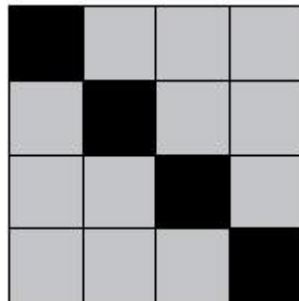
Pattern A   Pattern B

In pattern A, the **ratio** of black squares to grey squares is **1 : 2**

What is the ratio of black squares to grey squares in pattern B?

1	:	

1 mark

Q2.

In a class, 18 of the children are girls.

A quarter of the children in the class are boys.

Altogether, how many children are there in the class?

Show your method

Q3.

A gardener plants tulip bulbs in a flower bed.

She plants 3 red bulbs for every 4 white bulbs.

She plants 60 red bulbs.

How many **white** bulbs does she plant?

Show your method

2 marks

Q4.

Mari is the presenter of a weekly radio show.

She plays **five** new songs for every **two** old songs.

Last week she played 15 **new** songs.

How many songs did she play **altogether**?

Show your method

2 marks

Q5.

Sapna makes a fruit salad using bananas, oranges and apples.

For every one banana, she uses 2 oranges and 3 apples.

Sapna uses 24 fruits.

How many **oranges** does she use?

Show
your
method

oranges

2 marks

Q6.

David and his friends prepare a picnic.

Each person at the picnic will get:

3 sandwiches

2 bananas

1 packet of crisps
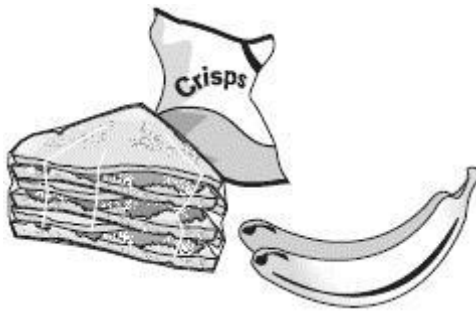
The children pack **45** sandwiches.

How many **bananas** do they pack?

Show
your
method

bananas

2 marks

Q7.

Shortcrust pastry is made using flour, margarine and lard.

The **flour, margarine** and **lard** are mixed in the ratio

  8 : 3 : 2 by weight.

How many grams of **margarine** and **lard** are needed to mix with **200 grams** of flour?

Show your method

| margarine | g | lard | g |

2 mark

Q8.

6 small bricks have the same mass as 5 large bricks.
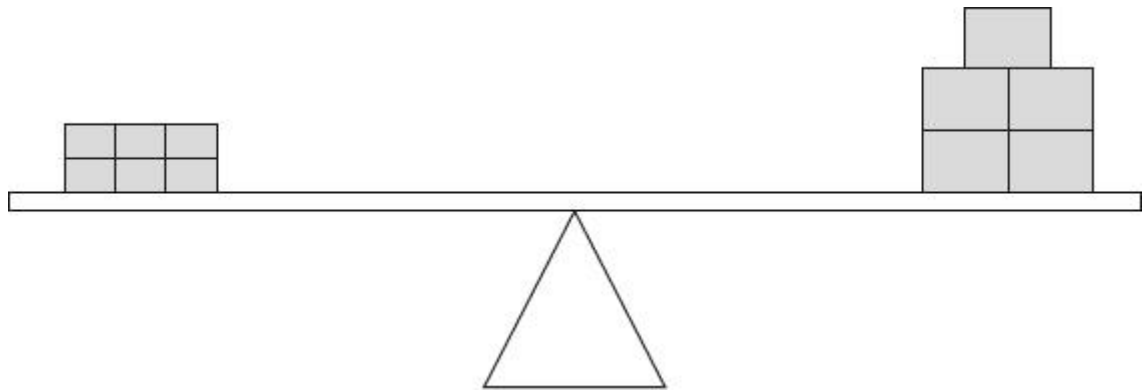
The mass of one small brick is 2.5 kg.

What is the mass of one large brick?

Show your method

kg

2 marks

Maths Answers

Week 1 Lesson 1

Mark schemes

Q1.

$$\frac{5}{12}$$

[1]

Q2.

$\frac{5}{10}$ or $\frac{1}{2}$ (or equivalent)

1

$\frac{4}{12}$, $\frac{2}{6}$ or $\frac{1}{3}$ (or equivalent)

1

[2]

Q3.

(a) Gives a pair of numbers to make the calculation correct, eg:

- $\dfrac{1}{\boxed{2}} + \dfrac{\boxed{1}}{5}$

- $\dfrac{1}{\boxed{10}} + \dfrac{\boxed{3}}{5}$

   Accept the following

   - $\dfrac{1}{\boxed{-10}} + \dfrac{\boxed{4}}{5}$

   - $\dfrac{1}{\boxed{-2}} + \dfrac{\boxed{6}}{5}$

   Do not accept *use of non-integers, eg:*

   - $\dfrac{1}{\boxed{3.33...}} + \dfrac{\boxed{2}}{5}$

1

(b) Gives a **different** pair of numbers to make the calculation correct

1

[2]

Q4.

$\frac{1}{2}$ or equivalent

[1]

Q5.

$\frac{3}{5}$ or equivalent

1

$\frac{1}{3}$ or equivalent

1

[2]

Q6.

3

1

$\frac{10}{13}$ or equivalent

1

[2]

Q7.

Award **TWO** marks for the correct answer of $\frac{3}{16}$

If the answer is incorrect award **ONE** mark for evidence of appropriate working, e.g.

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

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

Do not accept unconventional fractions e.g. $\frac{0.75}{4}$

[2]

Week 1 Lesson 2

Mark schemes

Q1.

(a) $\dfrac{3}{8}$ written in the first box

1

*Accept equivalent fractions or an **exact** decimal equivalent, e.g. 0.375*

(b) $2\dfrac{7}{8}$ **OR** $\dfrac{23}{8}$ written in the last box

1

*Accept equivalent fractions or an **exact** decimal equivalent, e.g. 2.875*

[2]

Q2.

(a) $6\dfrac{1}{4}$

Accept equivalent fractions.

***Do not** accept* $5\dfrac{5}{4}$

1

(b) $1\dfrac{1}{2}$

Accept equivalent fractions, eg

$1\dfrac{2}{4}$, $\dfrac{3}{2}$, *1.5, 150%*

1

[2]

Q3.

Completes both fractions correctly, ie

$2\dfrac{3}{5}$ $\qquad$ $3\dfrac{17}{20}$

2

or

Completes one of the fractions correctly

OR

Shows both correct values, even if they are not fractions in their simplest forms, eg

- $2\dfrac{6}{10}$ and 3.85 seen

1

[2]

Q4.

$\dfrac{8}{10}$ or $\dfrac{4}{5}$ (or equivalent)

1

$\dfrac{9}{20}$ (or equivalent)

1

[2]

Q5.

$1\dfrac{5}{6}$ or equivalent

[1]

Week 1 Lesson 3

Arithmetic mark schemes

Q1.
24

[1]

Q2.
180

[1]

Q3.
20

[1]

Q4.
9

[1]

Q5.
12

[1]

Q6.
600

Do not accept 600%

[1]

Q7.
7

[1]

Q8.
459

[1]

Q9.
162

Do not accept 162%

[1]

Q10.
35

Do not accept 35%

Q11.
150

Do not accept 150%

Q12.
37.5

Q13.
96

Q14.
459

Do not accept 459%

Q15.
112

Do not accept 112%

Q16.
220

Q17.
190

Q18.
228

Q19.
198

Do not accept 198%

Reasoning mark schemes

Q1.

35%

[1]

Q2.

Award **TWO** marks for the correct answer of 160

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

* 64 ÷ 2 = 32

  64 + 64 + 32 = wrong answer

OR

* 64 × 5 = 320

  320 ÷ 2 = wrong answer

  *Working must be carried through to reach an answer for the award of **ONE** mark.*

Up to 2
U1

[2]

Q3.

40%

Do not accept equivalent fractions or decimals.

[1]

Week 1 Lesson 4

Mark schemes

Q1.

Two angles ticked as shown:
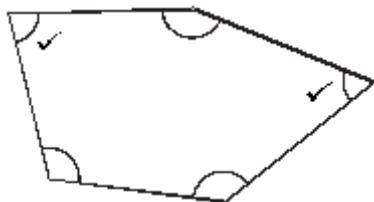
> *Do not* award the mark if additional incorrect angles are ticked.
>
> *Accept alternative unambiguous indications of the correct angles, eg angles circled.*

[1]

Q2.

An explanation that includes a correct counter example, e.g.

- When you double 10° it is not obtuse
- 2 × 27° = 54°
- Double 45° is a right angle not obtuse

OR

An explanation that demonstrates where the statement in the question is not correct, e.g.
- If the acute angle is less than 45° then doubling it will be less than 90°, so it won't be obtuse (more than 90°).

> *Do not* accept vague or incomplete explanations, e.g.
> - *Sometimes it will be acute*
> - *Some acute angles are half an obtuse angle, but not all*
> - *When you double an acute angle, you get a right angle*
>
> *Do not* accept explanations which include incorrect mathematics or incorrect information that is relevant to the explanation, e.g.
> - *20°C × 2 = 40°C*
> - *20% × 2 = 40%*

[1]

Q3.

107

[1]

Q4.

25

[1]

Q5.

Award **TWO** marks for correct answer of 170°

Up to 2

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg:

- 50 + 50 + 90 = 190

  360 – 190

OR

- 360 – 50 – 50 – 90

  Answer need not be obtained for the award of ***ONE*** *mark.*

Up to 2

[2]

Q6.

(a) $x =$ 55°

1

(b) $y =$ 145°

If the answers for (a) and (b) are transposed, but otherwise correct, award ***ONE*** *mark only, in the (b) box.*

1

[2]

Q7.

$x =$ 35°

[1]

Q8.

(a)   160

1

(b)   20

If the answers to a and b are incorrect, award ***ONE*** *mark if a + b = 180° unless b is between 33° and 37° inclusive, or 90°.*

1

[2]

Q9. Optional challenge question

17

! Answer written on diagram
Accept providing there is no ambiguity

2

or

73° seen (*one of the other angles in the isosceles triangle*)

OR

Shows or implies a complete correct method, eg:

- 180 − 34 = 144 *(error)*

    144 ÷ 2 = 72

    90 − 72 = 28 *(error)*

1

[2]

Q10. Optional challenge question

$r = 150$ **and** $t = 110$

> *Values must be unambiguously associated with the correct letter for the award of 2m or 1m*

2

or

r **or** t correct

OR

Shows or implies a complete, correct method for both angles, eg:

- 40 + 50 + 50 = 180 *(error)*
  360 − 50 − 50 − 50 = 210
  180 − 50 = 130

  > *!   Answers for r and t transposed*
  >
  > *If r is 110 and t is 150, then award 1m*
  >
  > *!   Follow-through from incorrect base angle seen on the diagram*
  >
  > *Award 1m if both r and t correctly follow through from an incorrect angle seen at base of an isosceles triangle, eg:*
  >
  > -
  >
  > *r = 360 − 180 = 180*
  > *t = 180 − 60 = 120*
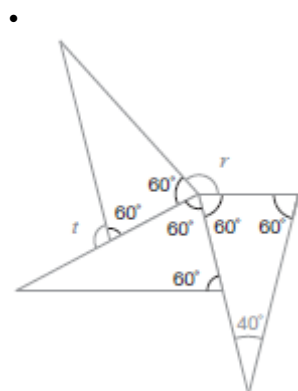
Week 2 Lesson 1

Mark schemes

Q1.
11 cm

[1]

Q2.

32

[1]

Q3.
Award **ONE** mark for three measurements placed as shown:

The radius of a circle is __4__ cm;

its diameter is __8__ cm and

its circumference is approximately __25__ cm.

[1]

Q4.
Award **TWO** marks for the correct answer of 14

 If the answer is incorrect, award **ONE** mark for evidence of appropriate method, eg

17.5 × 4 = 70

70 ÷ 5

> *Accept for **ONE** mark 140 **OR** 1.4 as evidence of appropriate method.*
> *Answer need not be obtained for the award of **ONE** mark.*

Up to 2 (U1)

[2]

Q5.
(a)   12.5 **OR** 12½

1

[1]

Week 2 lesson 2

Mark schemes

Q1.

```
  ┌─┐   ┌─┐
  │3│ 4 │2│
  └─┘   └─┘
×         6
─────────────
  2  0  5  2
```

(a)   3 in left hand box

1

(b)   2 in right hand box

1

[2]

Q2.

48 r 4

1

887

1

[2]

Q3.

Award **TWO** marks for the correct answer of

Mina ┌──────┐ 14   Kristy ┌──────┐ 9   Seb ┌──────┐ 7

If the answer is incorrect, award **ONE** mark for:

• two numbers correct

OR

• 14 **AND** 9 **AND** 7 with some or all attributed to the wrong child

OR

• evidence of appropriate working, eg

30 – 5 + 2 = 27

Kirsty = 27 ÷ 3 = wrong answer

Mina = wrong answer + 5

Seb = wrong answer – 2

Working must be carried through to reach an answer for the award of ONE mark.

OR

- a 'trial and improvement' method, eg

    10 + 5 + 3 = 18

    20 + 15 + 13 = 48

    15 + 10 + 8 = 33

    A 'trial and improvement' method must show evidence of
    improvement, but a final answer need not be reached
    for the award of ONE mark

Up to 2
U1

[2]

Q4.

(a) Award **TWO** marks for correct answer of 120 OR 95
(if book is assumed to have two covers)

If the answer is incorrect, award **ONE** mark for evidence of appropriate
strategy, eg:

- 435 – 75 = 360
  360 ÷ 3

- 435 – 150 = 285
  285 ÷ 3

Up to 2

[2]

Q5.

(a) £4.30

Accept 4.30 OR £4.30 OR 430p OR £4.30 OR 430 OR £4.30p.

1

(b) (small) Mushroom AND (medium) Ham

OR (small) Tuna AND (medium) Salami

Both must be correct.
Accept other unambiguous indications, eg:
- ***£4.50, £5.50***
- ***£4.25, £5.75***
- ***prices ringed in table***

1

[2]

Q6.

Award **TWO** marks for the correct answer of £11.40.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- £1.25 + £1.60 = £2.85
  £2.85 × 4

*Accept for **ONE** mark an answer of £1,140 **OR** £1,140p **OR** £11.4
as evidence of an appropriate method.*

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2m

[2]

Q7.

Award **TWO** marks for the correct answer of £1.55

If the answer is incorrect, award **ONE** mark for
evidence of an appropriate method, eg

£5.40 – £0.75 = £4.65

£4.65 ÷ 3

*Accept for **ONE** mark £155 **OR** £155p **OR** 1.55p
as evidence of an appropriate method.*

*Answer need not be obtained for the award
of **ONE** mark.*

Up to 2

Week 2 Lesson 3

Mark schemes

Q1.

An explanation that shows that 5,868 can be made by adding 326 to 17 × 326, e.g.

- '5542 + 326 = 18 × 326'
- '18 × 326 is 326 more than 5,542'
- 'Because this is the same as 17 × 326 = 5542 so add one more 326 to get the answer'
- 'You add 326 to 5,542 and your answer will be correct'
- 'Because you can add 326 to the answer of 17 × 326'
- '5542 + 326'.

> *Do not* *accept an explanation that simply calculates*
> *326 × 18 = 5,868.*
>
> *Do not* *accept vague or incomplete, or incorrect explanations, e.g.*
>
> - *'You could add another 326'*
>
> - *'The difference between 17 and 18 is 1 so you add 326 and that is one more'*
>
> - *'Because if you turn the question around you would see that 17 × 326 = 5542 so all you need to do is times the number one more time'*
>
> - *'5,542 + 326 because it is one more'.*
>
> - *5868 − 326 = 5542.*

[1]

Q2.

Award **TWO** marks for the correct answer of 99

If the answer is incorrect, award **ONE** mark for evidence of appropriate method, eg

36 – 25 = 11

11 × 9

OR

(36 – 25) × 9

> *Answer need not be obtained for the award of **ONE** mark.*

Up to 2

[2]

Q3.

Award **TWO** marks for the correct answer of 124

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

*   953 − 85 = 868
    868 ÷ 7

> *Answer need not be obtained for the award of **ONE** mark*
>
> *If the pupil's evaluation contradicts the appropriate method, the method mark will not be awarded.*

Up to 2m

[2]

Q4.

Award **TWO** marks for the correct answer of 15.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

*   4.5 × 3 = 13.5
    13.5 − 6 = 7.5
    7.5 × 2

> *Answer need not be obtained for the award of **ONE** mark.*
>
> *Misreads are **not** allowed.*

Up to 2m

[2]

Q5.

Award **TWO** marks for the correct answer of 15

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

■   61 ÷ 2 = 30.5

30.5 + 0.5 = 31

31 ÷ 2 = 15.5

15.5 − 0.5 = wrong answer

OR

■   61 ÷ 2 = 30.5

30.5 − 0.5 = 30 (step error)

30 ÷ 2 = 15

15 − 0.5 = 14.5 (wrong answer)

> *Working must be carried through to reach an answer for the award of **ONE** mark.*

Up to 2m

[2]

Q6.

Award **TWO** marks for the correct answer of 96

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g:

- 10.5 × 2 = 21
  21 + 11 = 32
  32 × 3

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2

[2]

Q7.

Award **TWO** marks for the correct answer of 2051

If the answer is incorrect, award **ONE** mark for evidence of appropriate method, eg

(4099 + 3) ÷ 2

OR

continuation of sequence, eg

259, 515, 1027, wrong number

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2

[2]

Week 2 Lesson 4

Mark schemes

Q1.

(a)   8.7 cm

> ***Do not*** *accept 8 cm 7 mm* ***OR*** *87 mm*

<div align="right">**1**</div>

(b)   Award **TWO** marks for the correct answer of 1.40 m **OR** 1.4.

> *Accept for* ***TWO*** *marks 1 m 40 cm*

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg

50 × 2.8 ÷ 100

> *Calculation need not be performed for the award of the mark.*
> *Award* ***ONE*** *mark for 14* ***OR*** *140* ***OR*** *1400,* ***OR*** *50 × 2.8*

<div align="right">**up to 2**</div>

<div align="right">**[3]**</div>

Q2.

160

<div align="right">**U1**</div>

<div align="right">**[1]**</div>

Q3.

1.50 **OR** 1.5

> *Accept* $1\frac{1}{2}$ *m*
> *Accept 150 cm*
> ***Do not*** *accept 150 m*

<div align="right">**[1]**</div>

Q4.

(a)   400

> *Answer must be in grams.*

<div align="right">**1**</div>

(b)   1200 g **OR** 1.2 kg

OR

for finding the correct difference between 1.6 kg and the answer given for (a).

> *Accept 1200* ***OR*** *1.2* ***OR*** *1 kg 200 g*

<div align="right">**1**</div>

<div align="right">**[2]**</div>

Q5.

Award **TWO** marks for the correct answer of 300

If the answer is incorrect, award **ONE** mark for
evidence of appropriate working, eg

$1\frac{1}{2}$ kg = 1500 g

1.2 kg = 1200 g

1500 g – 1200 g = wrong answer

> *Answer must be in grams for the award of **TWO** marks.*
>
> ***Do not** accept 0.3 kg.*
>
> *Working must be carried through to reach
> an answer for the award of **ONE** mark.*

Up to 2

[2]

Q6.

Award **TWO** marks for the correct answer of 1.58 kilograms

If the answer is incorrect award **ONE** mark for evidence of appropriate working, e.g.

750 g = 0.75 kg

2.8 + 0.75 = 3.55

5.13 – 3.55 = $\frac{7}{20}$

[2]

Q7.

Award **THREE** marks for the correct answer of 1.7 (litres) or 1,700 (ml).

If the answer is incorrect, award **TWO** marks for:

- sight of 6,300 **OR** 6.3 as evidence of the multiplication completed correctly

OR

- evidence of an appropriate complete method with no more than one error, e.g.

  - 28 × 225 = 6,300
    8 litres = 8,000 ml
    8,000 − 6,300 = 2,700 *(error)*

Award **ONE** mark for evidence of an appropriate method, e.g.

- 8,000 − 28 × 225 =

  > *Unit need not be given for the award of **THREE** marks. An
  > incorrect unit is treated as one error.*
  >
  > *A misread may affect the award of marks. No marks are awarded
  > if there is more than one misread or if the mathematics is
  > simplified.*
  >
  > ***TWO** marks will be awarded for an appropriate complete method
  > with the misread number followed through correctly.*
  >
  > ***ONE** mark will be awarded for evidence of an appropriate*

complete method with the misread number followed through correctly with one arithmetic error.

*If the answer reached in the first part of the calculation gives an answer greater than 8(L) or 8000(ml) and the smaller value is then subtracted from it, **ONE** mark may still be available.*

*Answer need not be obtained for the award of **ONE** mark.*

Up to 3m

[3]

Q8.

45.46 litres

Week 3 Lesson 1

Mark schemes

Q1.

Award **TWO** marks for all three expressions correct, eg

$k - 2$

$2k + 3$

$6 + \dfrac{1}{2}k$

> *Accept equivalent or unconventional notation, eg*
> $k + k + 3$ **OR** $3 + 2 \times k$
> $\dfrac{k}{2} + 6$ **OR** $6 + k \div 2$

If the answer is incorrect, award **ONE** mark for two expressions correct.

Up to 2

[2]

Q2.

Equation circled as shown:

$b = 2a \qquad a = 2b + 3c \qquad a = 5c$

$\boxed{a = 6c}$

$a + b = 5$

Accept unambiguous indication

[1]

Q3.

(a) 53

1

(b) 48

1

[2]

Q4.

(a) 4

! Algebra

1

(b) 0

1

[2]

Q5.

    (a)   50

                                                                      1

    (b)   5

                                                                       1

                                                                        [2]

Week 3 Lesson 2

Mark schemes

Q1.

Award **TWO** marks for the correct answer of 2.25

If the answer is incorrect, award **ONE** mark
for evidence of an appropriate method, eg

algebraic manipulation to reach

$18 = 8t$

Answer need not be obtained for the award of the mark.

Up to 2

[2]

Q2.

Award **TWO** marks for the correct answer of 14

If the answer is incorrect, award **ONE** mark for evidence of an appropriate
method, eg

algebraic manipulation to reach
$4\boldsymbol{u} = 56$

Calculation need not be completed for the award of the mark.

*Accept for **ONE** mark trial and improvement showing two
convergent attempts or two attempts which straddle the correct
value and which are within the range 11–17 **OR** one error in the
collection of terms.*

Up to 2

[2]

Q3.

Award **TWO** marks for the correct answer of 9

If the answer is incorrect, award **ONE** mark for evidence of an
appropriate method, eg

algebraic manipulation to reach $7\boldsymbol{u} = 63$

Up to 2

[2]

Q4.

Award **TWO** marks for the correct answer of 0.25 OR ¼

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method,
eg algebraic manipulation to reach

$4y = 1$ **OR** $- 4y = -1$

OR trial and improvement showing at least two convergent attempts **OR** trials with
two values that differ by less than1 and which straddle the correct value.

Accept equivalent fractions.

<div align="right">

Up to 2

[2]

</div>

Q5.

14

> *! Algebra*
> *See guidance*

<div align="right">**2**</div>

or

Shows or implies a correct first step of algebraic manipulation that either reduces the number of terms or collects variables on one side of the equation and numbers on the other, eg:

- $2y + 12 = 40$

- $7y = 5y + 28$

- $7y − 5y = 40 − 12$

- $2y = 28$

- $28 ÷ 2$

> *! Condone correct embedded solutions*
> *Award 1 mark, for a response which shows 14 as the embedded solution to their working, eg:*
> - *$7y + 12 = 5y + 40$*
>   *$(7 × 14) + 12 = (5 × 14) + 40$*
>   *$110 = 110$*

<div align="right">**1**</div>

<div align="right">**[2]**</div>

Q6.

Gives all three correct values, ie

$a = 16, b = 8, c = 6$

<div align="right">**2**</div>

Gives at least one correct value

or

Gives three values that satisfy the second and third equations

eg

- $a = 18, b = 6, c = 8$
  (satisfies $a + b = 24$ and $b + c = 14$:
  note that $a − c = 10$)

<div align="right">**1**</div>

Week 3 Lesson 3

Mark schemes

Q1.

(a)   Answer is teacher's measurement +/- 2 mm.

1

(b)   Any value between 23.6 and 24.4 (m) inclusive

> *If an incorrect answer was given in (a), accept an answer for (b)
> if the value in (a) is correctly multiplied
> by 2.*

1

[2]

Q2.

Award **TWO** marks for 39.6 km, even if there are errors in the working.

If the answer is incorrect, award **ONE** mark for evidence of correct partial result
6 × 6.6 by any appropriate method (not repeated addition only), eg:

- 6 × 6.6 = 36 + ... (incorrect answer given)

- 6 × 6.6 = 396

> *The writing of an expression such as:*
> - ***6 × 6.6***
> *alone, without attempt at calculation,
> is insufficient for the mark.*

Up to 2

[2]

Q3.

Award **TWO** marks for the correct answer of 1.05 kg.

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

■   12 ÷ 4 = 3

350 × 3 = 1050

1050 ÷ 1000 = wrong answer

> ***Do not*** *accept 1050 g*
> *Accept for* ***ONE*** *mark 10.5 or 105 as evidence of appropriate
> working.*
> *Working must be carried through to reach an answer for the award
> of* ***ONE*** *mark.*

Up to 2m

[2]

Q4.

360

*Accept 0.36 kg **OR** .36 kg*

[1]

Q5.

(a)   40

1

(b)   Award **TWO** marks for the correct answer of 250

If the answer is incorrect, award **ONE** mark for evidence of appropriate method, eg:

- 500 ÷ 2 × 5 = 1250
  1250 – 1000

OR

- $\frac{1}{2}$ litre   2 smoothies

  1 litre   4 smoothies

  $1\frac{1}{4}$ litres   5 smoothies

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

  $\frac{1}{4}$ × 1000

> *Accept for **ONE** mark an answer of $\frac{1}{4}$ litre **OR** sight of $\frac{1}{4}$ litre with no evidence of an incorrect method.*
> *Accept for **ONE** mark an answer of 1250 **OR** sight of 1250 with no evidence of an incorrect method.*
> *Answer need not be obtained for the award of **ONE** mark.*

Up to 2

[3]

Q6.

(a)   Award **TWO** marks for the correct answer of £2.10 **OR** 210p

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg

350 ÷ 100 = 3.5

3.5 × 60 = wrong answer

> *Accept for **TWO** marks £2.10p **OR** 210 **OR** 2.10*
> *Accept for **ONE** mark £2.1 **OR** £210 **OR** 2.10p as evidence of appropriate working.*
> *Calculation must be performed for the award of **ONE** mark.*

Up to 2

Q7.

Award **TWO** marks for the correct answer of 375

If the answer is incorrect, award **ONE** mark for an appropriate method, such as:

- 250 ÷ 2 × 3

> *Calculation need not be performed for the award of **ONE** mark, but the method shown must be capable of producing the correct answer.*

Up to 2

[2]

Q8.

(a) $\frac{3}{4}$ – **OR** 0.75

> *Accept equivalent fractions.*

1

(b) Award **TWO** marks for the correct answer of 625

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg

2.5 × 250

OR

250 + 250 + 125

> *Accept for **ONE** mark 0.625 **OR** 6.25 **OR** 62.5 **OR** 6250 as evidence of appropriate method.*
> *Calculation need not be performed for the award of the mark.*

Up to 2

[3]

Week 3 Lesson 4

Mark schemes

Q1.

1 : 3

1

[1]

Q2.

Award **TWO** marks for the correct answer of 24

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

• 18 ÷ 3 × 4 = wrong answer

OR

• 18 ÷ 3 = 6

6 + 18 = wrong answer
*Working must be carried through to reach an answer for the award of **ONE** mark.*

OR

• a 'trial and improvement' method, eg

18 girls + 14 boys = 32   32 ÷ 4 = 8

18 girls + 10 boys = 28   28 ÷ 4 = 7

18 girls + 4 boys = 22   22 ÷ 4 =
*A 'trial and improvement' method must show evidence of improvement, but a final answer need not be reached for the award of **ONE** mark.*

Up to 2
U1

[2]

Q3.

Award **TWO** marks for the correct answer of 80

If the answer is incorrect, award **ONE** mark for evidence of appropriate method, eg:

• 60 ÷ 3 = 20

20 × 4

OR

• 3 red 4 white

30 red 40 white

60 red…

Answer need not be obtained for the award of ONE mark.

Up to 2

[2]

Q4.

Award **TWO** marks for the correct answer of 21

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg

5 + 2 = 7
15 ÷ 5 × 7

OR

5 new 2 old
10 new 4 old
15 new 6 old

Award ONE mark for an answer of 6 OR for 6 shown with no evidence of an incorrect method.

Answer need not be given for the award of ONE mark.

Up to 2

[2]

Q5.

Award **TWO** marks for the correct answer of 8

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg

1 + 2 + 3 = 6

24 ÷ 6 = 4

4 × 2

OR

6 fruits   2 oranges

12 fruits   4 oranges

18 fruits   6 oranges

24 fruits   wrong answer

Answer need not be obtained for the award of ONE mark.

Up to 2

[2]

Q6.

Award **TWO** marks for the correct answer of 30

If the answer is incorrect, award **ONE** mark for evidence of appropriate

method, eg

45 ÷ 3 = 15

15 × 2

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2

[2]

Q7.

Award **TWO** marks for the correct answer of

margarine   75g

lard   50g

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg

200 ÷ 8 = 25
margarine = 3 × 25
lard = 2 × 25

OR the use of ratio, eg

8 : 3 : 2
80 : 30 : 20
40 : 15 : 10
200 : wrong answer : 50
200 : 75 : wrong answer

Up to 2

[2]

Q8.

Award **TWO** marks for the correct answer of 3.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

•   2.5 × 6 = 15
        15 ÷ 5

*Answer need not be obtained for the award of **ONE** mark.*

*Misreads are **not** allowed.*

Up to 2m

[2]