

Year 6



Mathematics

Reasoning - number

Mixed word problems 2

First name						
Middle name						
Last name						
Date of birth	Day		Month		Year	
School name						

3

Sulaiman buys 5 large trays of cupcakes and 3 small trays of cupcakes.

Each large tray has 24 cupcakes and each small tray as 15 cupcakes.

How many **cupcakes** does Sulaiman buy?

Show your method

2 marks

4

This table shows the depth of different parts of the ocean

Part of the ocean	Depth in m
Ocean basin	5,947
Mariana trench	11,034
Titanic site	3,840

The Challenger ship sank to twice as deep as the ocean basin.

How far did it sink?

2 marks

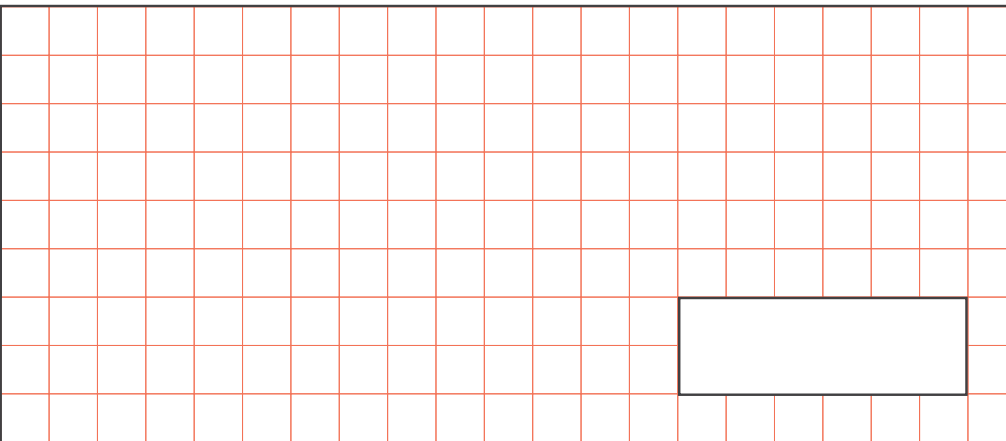
What is the difference in the depth of the Challenger and the Mariana trench?

5

Year 5 are raising money for charity. Their target is £1,000.
Class 5a have raised £263.53. Class 5b have raised £311.28.

How much **more** money do they need to reach their target?

Show your method



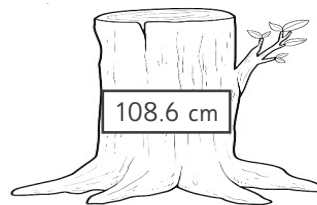
2 marks

6

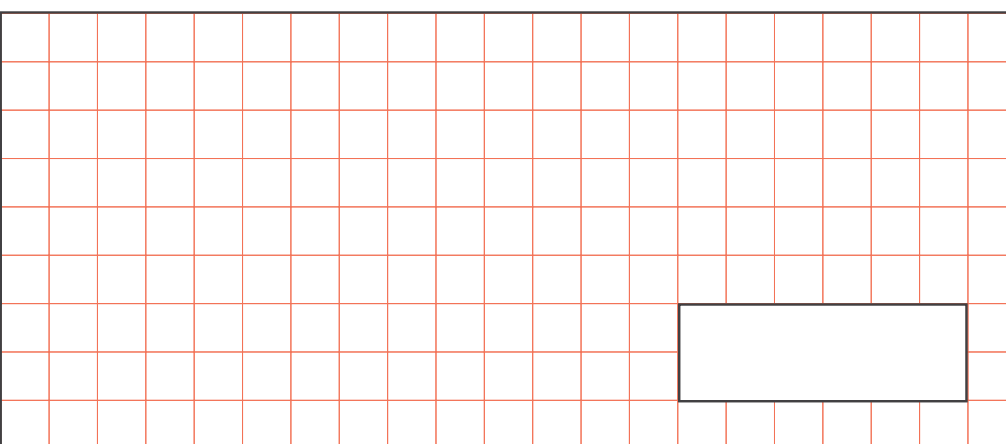
To estimate the age of a tree in years, we can follow this formula:

- measure the circumference of the tree's trunk
- divide it by 3

What is the **difference** in the estimated ages of these two trees?



Show your method



2 marks

7

A bakery sells a “party box” of mixed desserts.

Party box

Four cookies

Six brownies

Eight cupcakes

How many desserts are there in **five** party boxes?

Elodie wants **48** cookies.

3 marks

How many party boxes does she need?

Ashraf buys **15** party boxes.

How many **more** cupcakes does he have than brownies?

8

A bookcase has 7 shelves.

Each shelf can store 54 books.

A library installs 18 bookcases

How many books can it store?

Show your method

The library purchases 760 new books.

How many new bookcases do they need?

Show your method



2 marks

9

A bakery sells brownies in boxes of 4 or boxes of 8.
Helen buys **5 boxes of 4** brownies.

How many brownies did she buy?

2 marks

Melody bought some **boxes of 8** brownies.
She has **96 brownies** altogether.

How many **boxes of 8** did she buy?

10

There are **12 sweets** in **a packet**.
There are **18 packets** in **a box**.

How many sweets are there in **a box**?

2 marks

If Xander needs **180 sweets**

How many **packets** does he need to buy

11

Three schools have been raising money for charity. Altogether, they made £25,000.

School 1 has raised £7,932

School 2 has raised £5,108

School 3 has raised £6,235



2 marks

How much did School 4 make?

Show your method

12

An all-inclusive holiday for a family of 6 costs £54,394

On sale, it is reduced by £9,999

What is the **sale** price of the holiday?



1 mark

Show your method

13

A rectangular playground is 15 metres long by 8 metres wide.

Some children are running races.

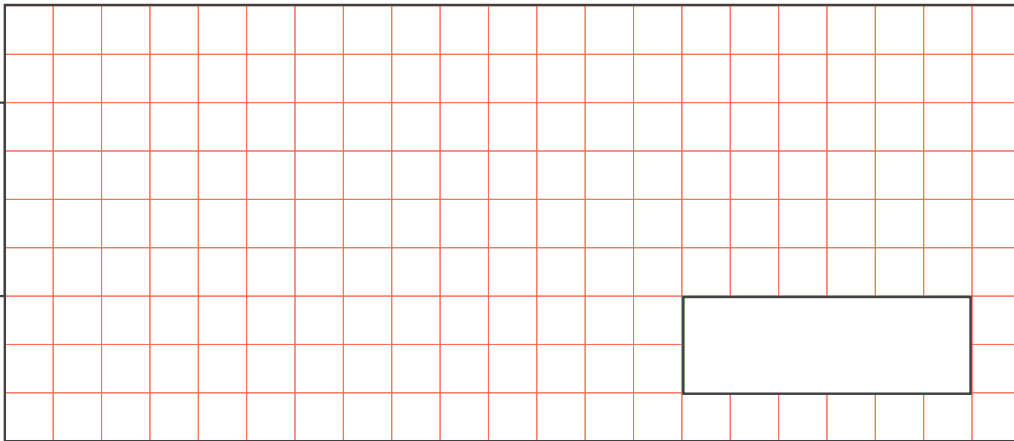
John says that it is longer to run **6 lengths**.

Inaya says that it is longer to run **12 widths**.

Which is longer?

2 marks

Show your method



14

Stacey has been mowing lawns for her neighbour once a week.

This table shows how much she gets paid each week.

Week	Pay
1	£4
2	£6
3	£4
4	£3
5	£5
6	£7

2 marks

How much had she been paid **altogether** by week 5?

If she was paid **£2** more each week, when would she have saved **£30**?

15

Daniel is building a wall.

He buys a crate of **400 bricks**.

After he has built the wall, he has **124 bricks** left over.

How many bricks did he use?

He builds two more walls with the leftover bricks.

Each wall uses the same number of bricks.

He now has **36 bricks** left over.

How many bricks were used for each new wall?

2 marks

Show
your
method

16

Year 6 are selling ice creams at the school fair.

They had **350** ice creams to sell.

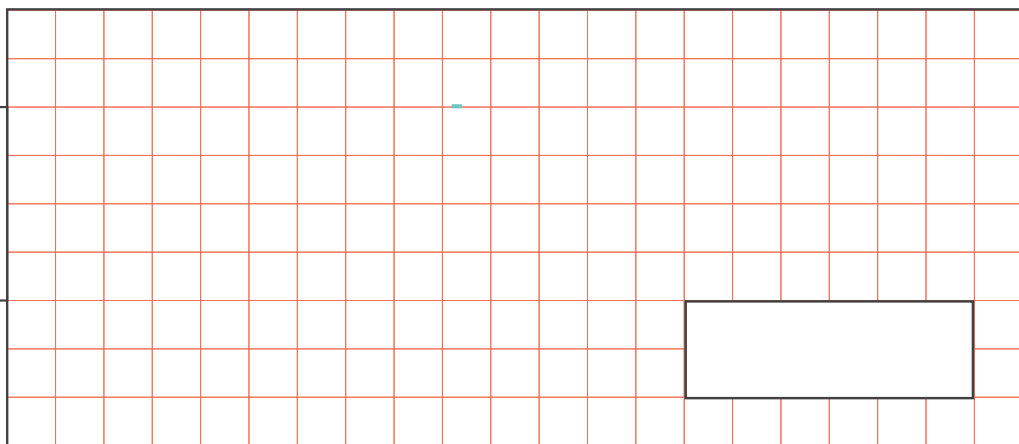
Class 6a sold **56** ice creams.

Class 6b sold **123** ice creams.

Class 6c sold **72** ice creams.

How many ice creams were left?

Show your method



2 marks

If they sold the ice creams for **99p** each, how much money did they make?



17

Maria has **54** cupcakes.

Each person at a party gets **3 cupcakes** each.

How many people are there at the party?

There are **67 packets** of crisps to share around at the party.

How many packets of crisps does each person get?

3 marks

How many are left over?

18

A garden centre sells a mixture of plants in boxes.

Special offer box

Five ferns

Seven roses

Nine daffodils

How many plants are there in **eight** special offer boxes?

Amir wants **189 plants**.

How many special offer boxes does he need?

3 marks

Amena buys **17** special offer boxes.

How many **more** roses does she have than ferns?

19

A bookshop has put in some new bookcases.

Each bookcase can hold 450 books.

This table shows the number of books on each bookcase

Bookcase	No of books
1	126
2	314
3	408
4	496
5	287

How many more books could the bookshop fit on the bookcase **altogether**?



2 marks

Show your method

20

Alif is planting some seeds.

Each small tray has 27 seeds in it.

He plants 42 small trays.

Each large tray has 68 seeds in it.

He plants 12 large trays.

How many seeds does Alif need **altogether**?

2 marks

Show
your
method

total marks

1 Cookies are sold in trays of **18**

Phoebe buys **9** trays of cookies.

How many cookies is this?

$$\begin{array}{r} 18 \\ \times 9 \\ \hline 162 \end{array}$$

162



2 marks

Ada wants **90** cookies for a party.

How many trays does she need to buy?

$$\begin{array}{r} 18 \\ \times 5 \\ \hline 90 \end{array}$$

90

2 Anwar buys 6 cookies and a cupcake. He pays £8.92

Hannah buys 2 cookies and pays £2.48

How many does **a cupcake** cost?

Show your method	$\times 3$	2 cookies = £2.48	
		6 cookies = £2.48	
		$\begin{array}{r} \times 3 \\ \hline \pounds 7.44 \end{array}$	
			$\begin{array}{r} 8.92 \\ - 7.44 \\ \hline 1.48 \end{array}$
			<p>£1.48</p>



2 marks

3

Sulaiman buys 5 large trays of cupcakes and 3 small trays of cupcakes.

Each large tray has 24 cupcakes and each small tray as 15 cupcakes.

How many **cupcakes** does Sulaiman buy?

Show your method

\times	24		\times	15		$+$	120
	5			3			45
	<hr/>			<hr/>			<hr/>
	120			45			165

165



2 marks

4

This table shows the depth of different parts of the ocean

Part of the ocean	Depth in m
Ocean basin	5,947
Mariana trench	11,034
Titanic site	3,840

The Challenger ship sank to twice as deep as the ocean basin.

How far did it sink?

$$\begin{array}{r} 5,947 \\ \times \quad 2 \\ \hline 11894 \end{array}$$

11,894 m



2 marks

What is the difference in the depth of the Challenger and the Mariana trench?

$$\begin{array}{r} 11,894 \\ - 11,034 \\ \hline 860 \end{array}$$

860m

7

A bakery sells a “party box” of mixed desserts.

Party box**Four cookies****Six brownies****Eight cupcakes**How many desserts are there in **five** party boxes?

$$4 + 6 + 8 = 18$$

$$\begin{array}{r} 18 \\ \times 5 \\ \hline 90 \end{array}$$

90

Elodie wants **48** cookies.**3 marks**

How many party boxes does she need?

$$4 \times 12 = 48$$

12

Ashraf buys **15** party boxes.How many **more** cupcakes does he have than brownies?

$$\begin{array}{r} 15 \\ \times 8 \\ \hline 120 \end{array}$$

$$\begin{array}{r} 15 \\ \times 6 \\ \hline 90 \end{array}$$

$$\begin{array}{r} 120 \\ - 90 \\ \hline 30 \end{array}$$

30

8

A bookcase has 7 shelves.
Each shelf can store 54 books.
A library installs 18 bookcases
How many books can it store?

Show your method

$\begin{array}{r} 54 \\ \times 7 \\ \hline 378 \end{array}$	$\begin{array}{r} 378 \\ \times 18 \\ \hline 3024 \\ 3780 \\ \hline 6804 \end{array}$	$6,804$
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The library purchases 760 new books.
How many new bookcases do they need?

2 marks

Show your method

$\begin{array}{r} 378 \\ \times 2 \\ \hline 756 \end{array}$	2 bookcases are not enough for 760 books so they would need a total of 3	3
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9

A bakery sells brownies in boxes of 4 or boxes of 8.

Helen buys **5 boxes of 4** brownies.

How many brownies did she buy?

90



2 marks

Melody bought some **boxes of 8** brownies.

She has **96 brownies** altogether.

How many **boxes of 8** did she buy?

$$96 \div 8 = 12$$

12

10

There are **12 sweets** in **a packet**.

There are **18 packets** in **a box**.

How many sweets are there in **a box**?

$$\begin{array}{r} 18 \\ \times 12 \\ \hline 36 \\ 180 \\ \hline 216 \end{array}$$

216



2 marks

If Xander needs **180 sweets**

How many **packets** does he need to buy

$$12 \overline{)180} \begin{array}{r} 15 \\ \hline \end{array}$$

15

11

Three schools have been raising money for charity. Altogether, they made £25,000.

School 1 has raised £7,932

School 2 has raised £5,108

School 3 has raised £6,235



2 marks

How much did School 4 make?

Show your method

	7932	13040	
	+ 5108	+ 6235	
	<u>13040</u>	<u>19275</u>	
	25000		
	- 19275		
	<u>5725</u>		
			£5,725

12

An all-inclusive holiday for a family of 6 costs £54,394

On sale, it is reduced by £9,999

What is the **sale** price of the holiday?



1 mark

Show your method

	54394	44394	
	- 10000	+ 1	
	<u>44394</u>	<u>44395</u>	
			£44,395

13

A rectangular playground is 15 metres long by 8 metres wide.

Some children are running races.

John says that it is longer to run **6 lengths**.

Inaya says that it is longer to run **12 widths**.

Which is longer?



2 marks

Show
your
method

15
x 6
—
90

12
x 8
—
96

12 widths

14

Stacey has been mowing lawns for her neighbour once a week.

This table shows how much she gets paid each week.

Week	Pay
1	£4 £6
2	£6 £8
3	£4 £6
4	£3 £5
5	£5 £7
6	£7 £9

Total	??
10	14
14	20
17	25
22	£32



2 marks

How much had she been paid **altogether** by week 5?

£22

If she was paid **£2** more each week, when would she have saved **£30**?

Week 5

15

Daniel is building a wall.

He buys a crate of **400 bricks**.

After he has built the wall, he has **124 bricks** left over.

How many bricks did he use?

$$\begin{array}{r} \overset{3}{4} \overset{9}{0} \overset{1}{0} \\ - 124 \\ \hline 276 \end{array}$$

276

He builds two more walls with the leftover bricks.

Each wall uses the same number of bricks.

He now has **36 bricks** left over.

How many bricks were used for each new wall?



2 marks

Show
your
method

$$\begin{array}{r} \overset{1}{1} \overset{1}{2} \overset{1}{4} \\ - 36 \\ \hline 88 \end{array} \quad \begin{array}{r} 44 \\ 2 \overline{) 88} \\ \underline{2} \\ 8 \\ \underline{8} \\ 0 \end{array}$$

44

16

Year 6 are selling ice creams at the school fair.

They had **350** ice creams to sell.

Class 6a sold **56** ice creams.

Class 6b sold **123** ice creams.

Class 6c sold **72** ice creams.

How many ice creams were left?

Show your method	$\begin{array}{r} 123 \\ + 56 \\ \hline 179 \end{array}$	$\begin{array}{r} 179 \\ + 72 \\ \hline 251 \end{array}$	$\begin{array}{r} 350 \\ - 251 \\ \hline 99 \end{array}$	

2 marks

If they sold the ice creams for **99p** each, how much money did they make?

$$251 \times \pounds 1 = \pounds 251$$

$$251 \times 1\text{p} = \pounds 2.51$$

$$\pounds 251 - \pounds 2 = \pounds 249$$

$$\pounds 249 - \pounds 0.51 = \pounds 248.49$$

£248.49

17

Maria has **54** cupcakes.

Each person at a party gets **3 cupcakes** each.

How many people are there at the party?

$$\begin{array}{r} 18 \\ 3 \overline{)54} \end{array}$$

18

There are **67 packets** of crisps to share around at the party.

How many packets of crisps does each person get?

$$\begin{array}{r} 3r13 \\ 18 \overline{)67} \end{array}$$

$$\begin{array}{r} 18 \\ \times 3 \\ \hline 54 \end{array}$$

3



3 marks

How many are left over?

$$\begin{array}{r} 67 \\ - 54 \\ \hline 13 \end{array}$$

13

18

A garden centre sells a mixture of plants in boxes.

Special offer box

Five ferns

Seven roses

Nine daffodils

How many plants are there in **eight** special offer boxes?

$$5 + 7 + 9 = 21$$

$$\begin{array}{r} 21 \\ \times 8 \\ \hline 168 \end{array}$$

168

Amir wants **189** plants.

How many special offer boxes does he need?

$$21 \overline{)189} \begin{array}{l} 9 \\ \hline \end{array}$$

$$\begin{array}{r} 21 \\ \times 9 \\ \hline 189 \end{array}$$

9



3 marks

Amena buys **17** special offer boxes.

How many **more** roses does she have than ferns?

$$\begin{array}{r} 17 \\ \times 7 \\ \hline 119 \end{array}$$

$$\begin{array}{r} 17 \\ \times 5 \\ \hline 85 \end{array}$$

$$\begin{array}{r} 119 \\ - 85 \\ \hline 34 \end{array}$$

34

19

A bookshop has put in some new bookcases.

Each bookcase can hold 450 books.

This table shows the number of books on each bookcase.

Bookcase	No of books
1	126
2	314
3	408
4	496
5	287

How many more books could the bookshop fit on the bookcase **altogether**?



2 marks

Show your method	$\begin{array}{r} 126 \\ + 314 \\ \hline 440 \end{array}$	$\begin{array}{r} 440 \\ + 408 \\ \hline 848 \end{array}$	$\begin{array}{r} 848 \\ + 496 \\ \hline 1344 \end{array}$	$\begin{array}{r} 1334 \\ + 287 \\ \hline 1631 \end{array}$		
	$\begin{array}{r} 450 \\ \times 5 \\ \hline 2250 \end{array}$	$\begin{array}{r} 2250 \\ - 1631 \\ \hline 619 \end{array}$				
						619

20

Alif is planting some seeds.

Each small tray has 27 seeds in it.

He plants 42 small trays.

Each large tray has 68 seeds in it.

He plants 12 large trays.

How many seeds does Alif need **altogether**?



2 marks

Show
your
method

$$\begin{array}{r} \times 42 \\ 27 \\ \hline 294 \\ 840 \\ \hline 1134 \end{array}$$

$$\begin{array}{r} \times 68 \\ 12 \\ \hline 136 \\ 680 \\ \hline 816 \end{array}$$

$$\begin{array}{r} + 1134 \\ 816 \\ \hline 1950 \end{array}$$

1,950