

All Kinds of Word Problems

The Four Operations
10 Questions, Answers and a
Challenge

Year 3



THIRD SPACE
LEARNING

Year 3 Problems on the Four Operations

Name.....

Date.....Class

School



Please write your answer on the answer line provided. You can use the space provided below the question for working out if you need it.

1

Can you make these calculations correct by working out what the missing number or mathematical symbol (+ – x ÷ =) is in each calculation?

Write your answers into the boxes provided below.

$$38 \quad \boxed{} \quad 8 = 6 \times 5$$

$$36 \div \boxed{} = 6 \quad \boxed{} \quad 6$$

$$\boxed{} \times 4 = 32 \div \boxed{}$$

$$549 \quad \boxed{} \quad 1 = 55 \quad \boxed{} \quad 10$$

$$110 \div 10 \quad \boxed{} \quad \boxed{} \times 1$$

$$1900 - 900 \quad \boxed{} \quad 100 \times 10$$

2

These calculations all have shapes instead of numbers.

a If the star represents 16, can you work out what numbers the other shapes represent?

$$\text{Circle} + \text{Circle} + \text{Circle} + \text{Circle} = \text{Star}$$

$$\text{Triangle} + \text{Triangle} = \text{Star}$$

Answer Circle

Answer Triangle

b Now that you have worked out what number each shape represents, can you find the answer to these calculations?

Write your answers in the boxes provided below.

$$\text{Triangle} \times \text{Circle} = \boxed{}$$

$$\text{Triangle} + \text{Circle} = \boxed{}$$

$$\text{Star} \div \text{Triangle} = \boxed{}$$

3

Ahmed and Isla sell drinks at a school fair.

On Saturday they earn £14.00 and on Sunday they earn £28.20.

If they share what they have earned equally how much money will they each have?



Answer £.....

4

Ellie and Georgia start with different numbers of cupcakes.

Ellie gives 6×3 of her cupcakes away.

Georgia gives 8×3 of her cupcakes away.

They both end up with 18 cupcakes each.

How many cupcakes did they each have to start with?



Answer Ellie

Georgia

5 Can you find the way through the maze starting at the number 22 and finishing with the answer 10?

You must add, subtract, multiply or divide your number depending what square you land on.

You can only move to a square directly next to or under or over the square you are on. You cannot move diagonally.

Once you have decided on the correct route, draw it onto the maze.

Start 22	+ 8	÷ 5
- 7	÷ 3	x 2
x 6	- 9	End 10

6

A forest has 364 trees in it.

Four woodcutters need to chop them all down.

a If they all chop the same amount of trees, how many trees does each woodcutter chop down?

b For every tree chopped down, two new ones are planted. How many trees are now in the forest?



Answer a

Answer b

7

Tally spent £27.60 and she used three notes and five coins.

She did not use 2 p and 1 p coins.

What notes and coins could she have used?



Answer

8

Sonny, Alan and Karen take part in a sponsored fun run.

Sonny had three sponsors who each gave her 79 p.

Alan had four sponsors who each gave him £1.12.

Karen had eight sponsors who each gave her £1.16.

a How much money did they each collect?

b How much money did they collect altogether?



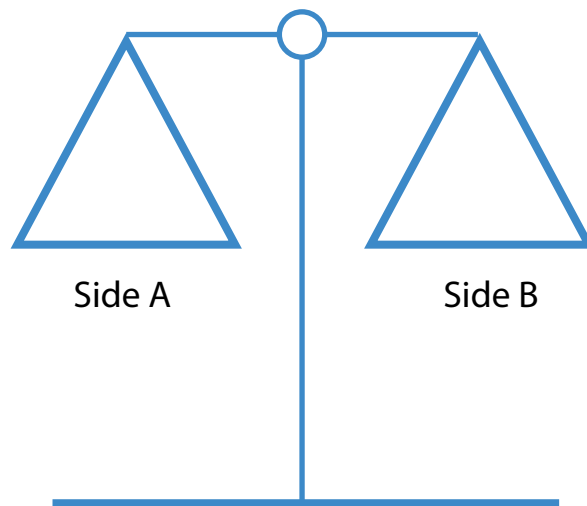
Answer a Sonny £..... Alan £..... Karen £.....

Answer b £.....

9 Using all of the weights below can you make the scale balance?

The weights on each side of the balance must add up to the same total.

200 g, 125 g, 100 g, 75 g, 50 g, 25 g, 20 g, 10 g, 5 g



Answer Side A

Answer Side B

10 20 hot air balloons set off on a race.

12 travelled 16 km each before landing.

4 travelled 22 km each before landing.

3 travelled 28 km each before landing.

1 travelled 35 km before landing.

What is the total distance the hot air balloons travelled?



Answerkm

Challenge Question!



Three gorillas, Archie, Bertie and Carla, ate a total of 51 bananas between them.

They each ate an odd number of bananas.

They each ate a different number of bananas.

a How many bananas could each gorilla have eaten?

Can you find three different solutions?

Solution 1: Archie Bertie Carla

Solution 2: Archie Bertie Carla

Solution 3: Archie Bertie Carla

b Now imagine the same three gorillas and the same 51 bananas. This time:

Each gorilla ate an even number of bananas.

Each gorilla ate a different numbers of bananas.

There were some bananas left over.

How many bananas could each gorilla have eaten?

Can you find three different solutions?

Solution 1: Archie Bertie Carla

Solution 2: Archie Bertie Carla

Solution 3: Archie Bertie Carla



Answer Sheet

1 $38 - 8 = 6 \times 5$ $36 \div 1 = 6 \times 6$ $4 \times 4 = 32 \div 2$
 $549 + 1 = 55 \times 10$ $110 \div 10 = 11 \times 1$ $1900 - 900 = 100 \times 10$

Content Domains: Using all four operations, Solving missing number problems, Using estimation and inverse (3C3, 3C4, 3C7, 3C8)

2 $\Delta = 8$
 $O = 4$
 $4 \times 8 = 32$
 $8 + 4 = 12$
 $16 \div 8 = 2$

Content Domains: Solving missing number problems (3C4, 3C8)

3 £21.10 each.

Content Domains: Using all four operations with money (3C4, 3M9)

4 Ellie – 36
Georgia – 42

Content Domains: Using multiplication and division facts to solve a problem (3C3, 3C6)

5

Start 22	+ 8	÷ 5
- 7	÷ 3	× 2
× 6	- 9	End 10

Content Domain: Using all four operations systematically (3C8)

- 6 a. They chop down 91 trees each
b. There are now 728 trees in the forest.

Content Domains: Using inverse operations (3C3, 3C4)

- 7 Tally must have used the following notes: £10, £10, £5.
She could have used two possible combinations of coins:
£1, £1, 20 p, 20 p, 20 p.
Or
£2, 20 p, 20 p, 10 p, 10 p.

Content Domains: Using inverse operations (3C3, 3C4)

8

- a. Sonny collected £2.37.
Alan collected £4.48.
Karen collected £9.28.
- b. Altogether, they collected £16.13.

Content Domains: Using all four operations with money (3C4, 3M9)

9

- Side A = $200\text{ g} + 100\text{ g} + 5\text{ g} = 305\text{ g}$
 Side B = $125\text{ g} + 75\text{ g} + 50\text{ g} + 25\text{ g} + 20\text{ g} + 10\text{ g} = 305\text{ g}$
 (Or the same combination of weights placed one opposite side)

Content Domains: Using measure and equations, Using estimation (3C3, 3C8)

10

399 km

Content Domains: Using measure, Written multiplication, Problem Solving, (3M9, 3C6, 3C7, 3C8)

Challenge Question

- a. Any combination of different odd numbers that gives the answer of 51 is correct.
 For example, 19 bananas, 21 bananas and 11 bananas
 Or
 5 bananas, 17 bananas and 29 bananas
 Or
 15 bananas, 13 bananas and 23 bananas
- b. Any combination of different even numbers that gives an answer below 51 is correct.
 For example, 18 bananas, 16 bananas and 12 bananas (5 left)
 Or
 14 bananas, 8 bananas and 22 bananas (7 left)
 Or
 26 bananas, 4 bananas and 20 bananas (1 left)

Content Domains: Solving number problems, Adding and subtracting mentally (3C4, 3N6, 3C1)
