



Mixed Maths Challenge Cards



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Six-Pin Bowling Challenge

If you knock down two pins at a time, which pins do you need to knock down to score:

7 points?

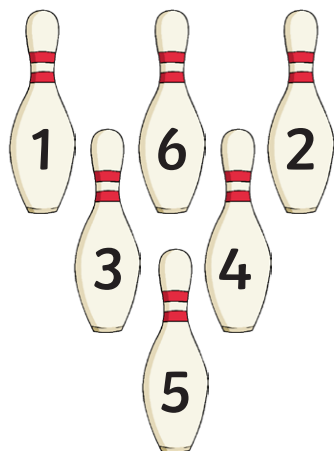
5 points?

3 points?

What scores do you get if you knock down the following pins:

1, 4 and 6

3, 6 and 5



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Sweet Shop Challenge

How many different ways could you pay for a single piece of bubblegum? Which coins could you use?

What if the bubblegum costs 6 pence each?

Which coins could you use?



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Apples and Pairs Challenge

Pick a pair of apples. Write down and add the two numbers together.

Pick a different pair of apples. Write down and add the two numbers together. Keep repeating this to see how many answers you get.

Now take one number from the other. How many different answers can you get?



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Snakes and Ladders Challenge

Your counter is on the number 9. You roll a 1 to 6 numbered dice and after two moves you land on the number 18.

Find all the different combinations you could roll.

| | | | | |
|----|----|----|----|----|
| 21 | 22 | 23 | 24 | 25 |
| 20 | 19 | 18 | 17 | 16 |
| 11 | 12 | 13 | 14 | 15 |
| 10 | 9 | 8 | 7 | 6 |
| 1 | 2 | 3 | 4 | 5 |

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Basketball Challenge

Choose 3 balls and add them together. You can use each ball more than once.

What is the highest score you can get?

Which balls can you add together to score:

7 points?

10 points?

What other scores can you get?



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Crossword Challenge

Write down the answers to this crossword in words.

Across

1. $7 - 5 + 2$

5. $5 + 2$

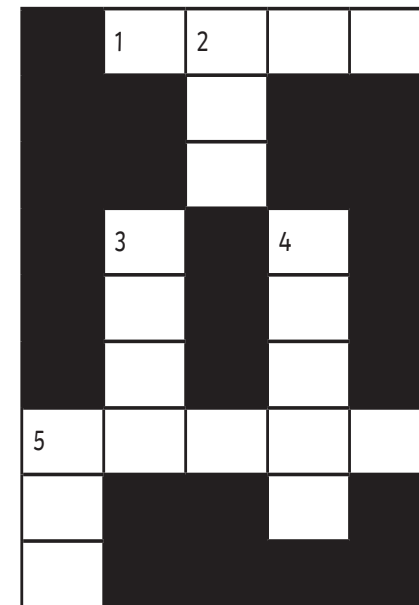
Down

2. $9 - 2 - 6$

4. $10 - 4 - 3$

3. $3 + 3 + 1$

5. $10 - 5 + 1$



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Pirate Treasure Challenge

The pirate has gold coins in four piles. He can move one or more coins at a time.

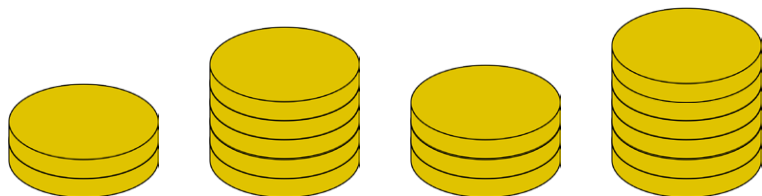
How can he make all the piles the same height in just two moves?

2

5

3

6



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Train Ride Challenge

A train ride ticket at the fair costs less than 20p but more than 15p.

Using each coin only once, how much could the ticket cost if you paid for ticket using exactly 3 coins?

How many ways could you do it?

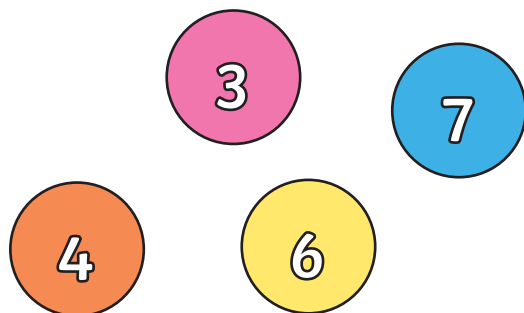


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Sum Counters Challenge

Using two or three number counters, make these totals:

- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16



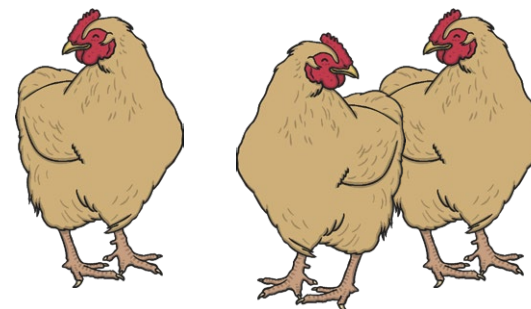
What other totals can you make from these numbers?

Counting Eggs Challenge

Three hens laid 19 eggs in total.

Each hen laid an odd number of eggs. How many eggs did each hen lay?

Find different ways the hens could have done this.

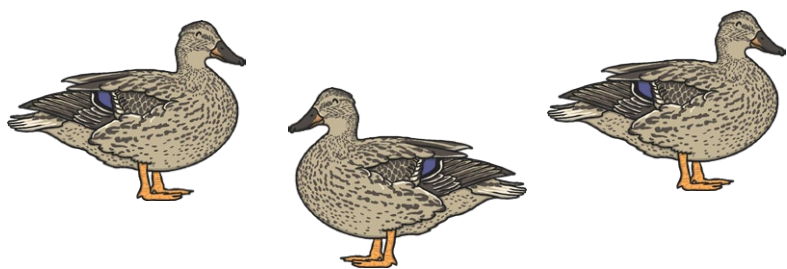


Counting Eggs Challenge

Three ducks laid 16 eggs in total.

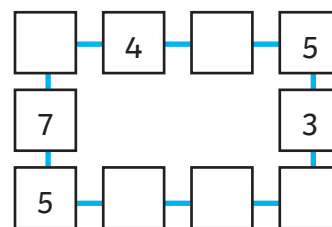
Each duck laid an even number of eggs. How many eggs did each duck lay?

Find different ways the ducks could have done this.

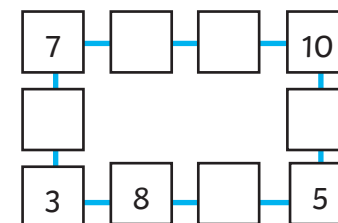


Number Line Challenge

Complete the number lines so that each line adds up to 14.



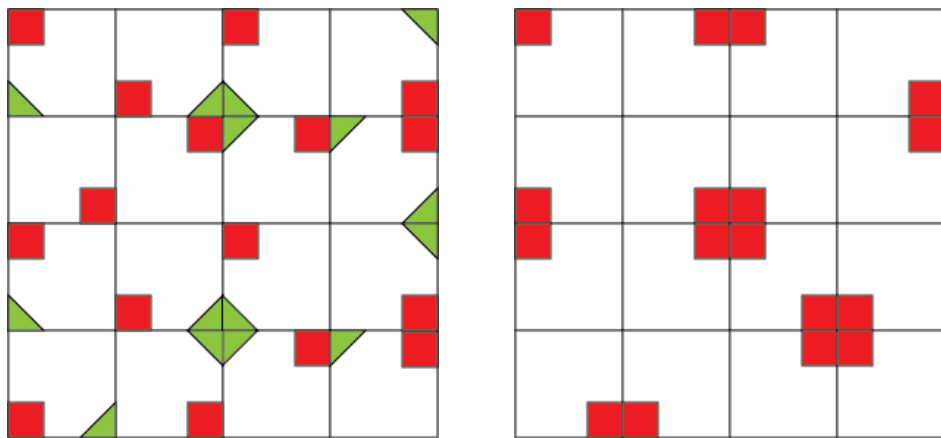
Complete the number lines so that each line adds up to 20.



Create your own puzzle like these and ask a friend to complete it.

Spot the Odd One Out Challenge

Which square is different to all the others in the grid below?



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Line of Symmetry Challenge

You will need:

- 3 different coloured pencils
- squared paper

How many different symmetrical patterns can you make by colouring 6 squares in a line. Only use 3 different colours. Use each colour pencil to colour in 2 squares.



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Number Card Totals Challenge

Choose 3 cards with a total of 12. This can be done in 10 different ways. See if you can record all 10 ways.

Choose 4 cards with a total of 12. How many ways can this be done?

Choose 5 cards with a total of 12. How many ways can this be done?

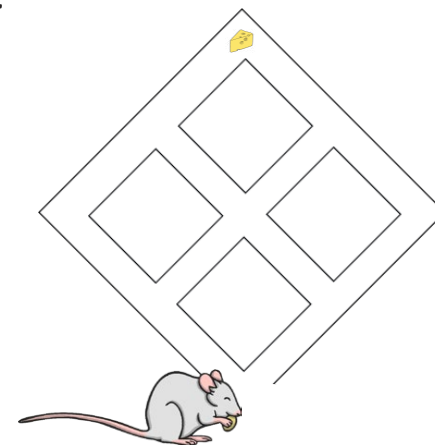


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Mouse Maze Challenge

The mouse found the cheese by going: right, left, right, left.

Help direct the mouse to the cheese in five other ways. The mouse will always go upwards.



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Toy Shop Challenge

The toys in this toy shop are 50 pence each. Using only silver coins, how many different ways can you pay exactly 50p? Which coins did you use?

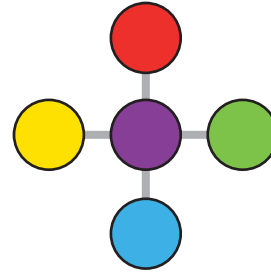


What if the toys cost 45p? Which coins did you use?

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Teacups Challenge

Arrange 5 plates as shown here.



Use 15 counters to make each line of plates add up to 9.

Do it again but this time make each line add up to 10.

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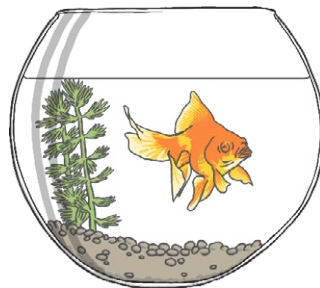
Bubble Tank Challenge

Some fish blew 3 bubbles. Some blew 4 bubbles. Altogether the fish blew 19 bubbles.

How many fish blew 3 bubbles?

What if the fish blew 25 bubbles?

Find two different answers.



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Solving Shapes Challenge

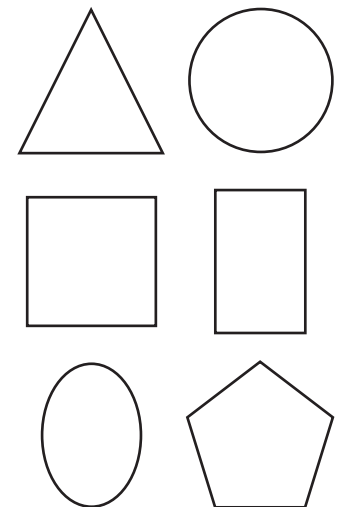
Using the clues below find out what colour each of these shapes are.

Blue is not next to pink.

Green is between grey and pink.

Red is not a square.

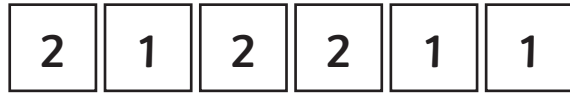
Green is on the right of white.



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High Score Challenge

You have these six numbers.



Using these numbers once, make the biggest number possible by using these signs:

+, × and =

Here are some examples:

$$2 \times 1 = 2$$

$$2 + 2 + 2 = 6$$

$$2 + 1 + 1 + 1 + 2 + 2 = 9$$

Can you beat these scores?

Now try making the biggest number you can by using three 2s and three 3s.

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Birthday Challenge

It is Jack's birthday. He asked his mother how old she is. She tells Jack she is 35. If we double Jack's age and add 5 we get the answer 35. How old is Jack?

How old was Jack's mother when Jack was born?

What number do you get if you add Jack's age to his mother's age?

Make up more problems like this. Try and use some of these words:

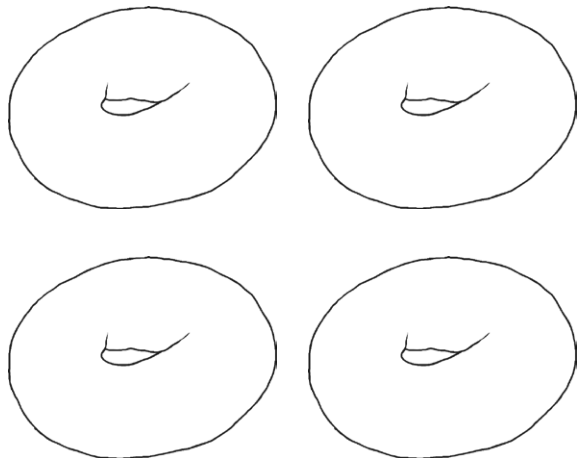
double halve add subtract



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Decorating Doughnuts Challenge

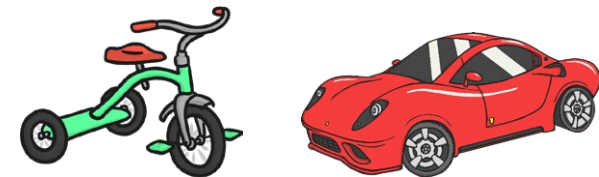
Use two colour pencils to decorate these four doughnuts. How many different ways can you colour the four doughnuts?



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Toy Shop Wheel Challenge

This toy shop sells race cars and tricycles. Race cars have 4 wheels and tricycles have 3 wheels.



You counted all the wheels in the toy shop and got the total of 45 wheels.

How many race cars are there in the shop?

How many tricycles are there?

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Add up to 5 Challenge

Write a list of all the whole numbers you can think of that when the digits are added together you get 5.

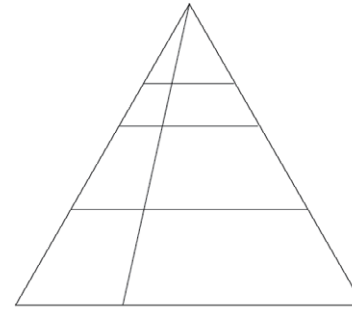
Here is an example:

32

Write the numbers in order, from smallest to biggest.

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Spotting Shapes

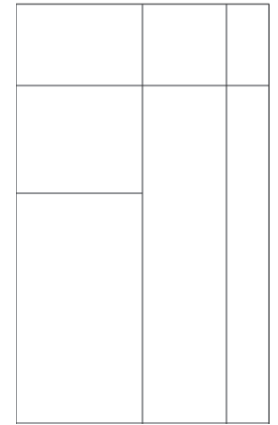


How many triangles can you count?

Draw your own diagram and count the shapes.

How many can be found?

How many rectangles can you count?



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Answers

Six Pin Bowling Challenge

- 7 points:

$3 + 4$

$6 + 1$

$5 + 2$

- 5 points:

$3 + 2$

$4 + 1$

- 3 points:

$2 + 1$

- 11

- 14

Sweet Shop Challenge

- 4:

5p

2p, 1p, 1p, 1p

2p, 2p, 1p

1p, 1p, 1p, 1p, 1p

- 5:

5p, 1p

2p, 1p, 1p, 1p, 1p

2p, 2p, 1p, 1p

2p, 2p, 2p

1p, 1p, 1p, 1p, 1p, 1p

Apples and Pairs Challenge

- 6

Accept any correct answer

Snakes and Ladders Challenge

6 and 3

5 and 4

4 and 5

3 and 6

Basketball Challenge

- 12

- 7 points:

$4 + 2 + 1$

$2 + 2 + 3$

$3 + 3 + 1$

- 10 points:

$4 + 4 + 2$

$3 + 3 + 4$

Accept any correct answer

Crossword Challenge

Across

1) four

2) seven

Down

2) one

3) five

4) three

5) six

Pirate Treasure Challenge

Move 2 coins from the 4th pile to the 1st. Then move 1 coin from the 2nd pile to the 3rd pile. Each pile should now have 4 coins.

Train Ride Challenge

- 16p

- 17p

- 16p:

10p, 5p, 1p

- 17p:

10p, 5p, 2p

Accept any correct answers

Sum Counters Challenge

- 9:

$6 + 3 = 9$

- 10:

$6 + 4 = 10$

$7 + 3 = 10$

$4 + 3 + 3 = 10$

- 11:

$7 + 4 = 11$

- 12:

$6 + 6 = 12$

$6 + 3 + 3 = 12$

- 13:

$7 + 6 = 13$

$3 + 3 + 7 = 13$

- 14:

$7 + 7 = 14$

$6 + 4 + 4 = 14$

- 15:

$6 + 6 + 3 = 15$

- 16:

$6 + 6 + 4 = 16$

$7 + 6 + 3 = 16$

- Accept any of the following correct answers;

17

18

20

21

Counting Eggs Challenge

- Purple

$1 + 1 + 17$

$1 + 3 + 15$

$1 + 5 + 13$

$1 + 7 + 11$

$1 + 9 + 9$

$1 + 11 + 7$

$1 + 13 + 5$

$1 + 15 + 3$

$3 + 1 + 15$

$3 + 3 + 13$

$3 + 5 + 11$

$3 + 7 + 9$

$3 + 9 + 7$

$3 + 11 + 5$

$3 + 13 + 3$

$5 + 1 + 13$

$5 + 3 + 11$

$5 + 5 + 9$

$5 + 7 + 7$

$5 + 9 + 5$

$5 + 11 + 3$

$7 + 1 + 11$

$7 + 3 + 9$

$7 + 5 + 7$

$7 + 7 + 5$

$7 + 9 + 3$

$9 + 1 + 9$

$9 + 3 + 7$

$9 + 5 + 5$

$9 + 7 + 3$

Accept any other correct answer

Counting Eggs Challenge

- Green

$2 + 2 + 12$

$2 + 4 + 10$

$2 + 6 + 8$

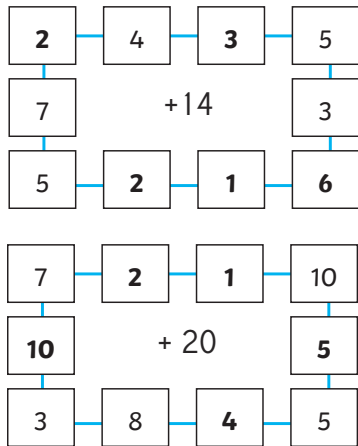
$2 + 8 + 6$

Answers

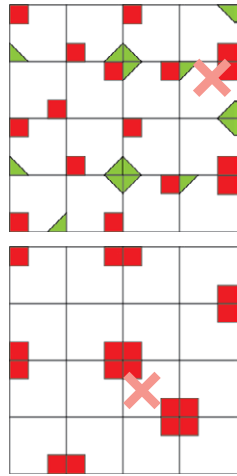
- 2 + 10 + 4
- 2 + 12 + 2
- 4 + 4 + 8
- 4 + 6 + 6
- 4 + 8 + 4
- 4 + 10 + 2
- 6 + 2 + 8
- 6 + 4 + 6
- 6 + 6 + 2
- 8 + 2 + 6
- 8 + 4 + 4
- 8 + 6 + 2
- 10 + 2 + 4
- 10 + 4 + 2
- 12 + 2 + 2

Accept any other correct answer

Number Line Challenge



Spot the Odd One Out Challenge



Line of Symmetry Challenge

6

Accept any other correctly drawn answer

Number Card Totals Challenge

- 3 cards:
 - 10 + 2 + 0
 - 9 + 1 + 2
 - 8 + 4 + 0
 - 8 + 3 + 1
 - 7 + 5 + 0
 - 7 + 4 + 1
 - 7 + 3 + 2
 - 6 + 5 + 1

- 6 + 4 + 2
- 5 + 4 + 3

• 4 cards:

- 8 + 3 + 1 + 0
- 7 + 4 + 1 + 0
- 6 + 5 + 1 + 0
- 3 + 2 + 1 + 6
- 2 + 1 + 4 + 5

Accept any other correct answer

• 5 cards:

- 6 + 3 + 2 + 1 + 0
- 5 + 4 + 2 + 1 + 0

Accept any other correct answer

Mouse Maze Challenge

Possible answers include:

1. Left, right, left, right
2. Left, right, right, left
3. Left, left, right, right
4. Right, left, right, left
5. Right, left, left, right
6. Right, right, left, left,

Toy Shop Challenge

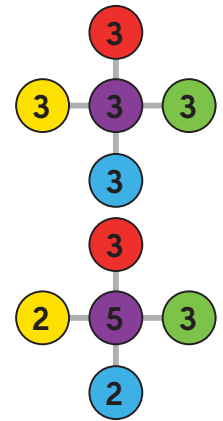
• 12:

- 50p
- 5p, 5p, 5p, 5p, 5p, 5p,
- 5p, 5p, 5p, 5p
- 5p, 5p, 5p, 5p, 5p, 5p,
- 5p, 5p, 10p
- 5p, 5p, 5p, 5p, 5p, 5p,
- 10p, 10p
- 5p, 5p, 5p, 5p, 10p, 10p, 10p,
- 5p, 5p, 10p, 10p, 10p, 10p,
- 10p, 10p, 10p, 10p, 10p,
- 5p, 5p, 5p, 5p, 5p, 5p, 20p
- 5p, 5p, 20p, 20p
- 5p, 5p, 5p, 5p, 10p, 20p
- 5p, 5p, 10p, 10p, 20p
- 10p, 10p, 10p, 20p
- 20p, 10p, 20p

• 9:

- 5p, 5p, 5p, 5p, 5p, 5p,
- 5p, 5p, 5p
- 5p, 5p, 5p, 5p, 5p, 5p,
- 5p, 10p
- 5p, 5p, 5p, 5p, 5p, 10p, 10p
- 5p, 5p, 5p, 10p, 10p, 10p
- 5p, 10p, 10p, 10p, 10p
- 5p, 5p, 5p, 5p, 5p, 20p
- 5p, 20p, 20p
- 5p, 5p, 5p, 10p, 20p
- 5p, 10p, 10p, 20p

Teacups Challenge



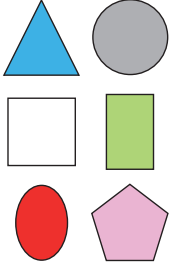
Accept any other correct answer

Bubble Tank Challenge

- 19 bubbles:
 - 1 fish (1 × 3, 4 × 4), 5 fish (5 × 3, 1 × 4)
- 25 bubbles:
 - 3 fish (3 × 3, 4 × 4), 7 fish (7 × 3, 1 × 4)

Answers

Solving Shapes Challenge



High Score Challenge

- $2 \times 2 \times 2 + 1 + 1 + 1 = 11$
- $3 \times 3 \times 3 \times 2 \times 2 \times 2 = 216$

Accept any other correct answer

Birthday Challenge

- 15 years old
- 20 years old
- 50

Decorating Doughnuts Challenge

- 3

Accept any correctly drawn answer

Toy Shop Wheel Challenge

Possible answers include:

- 6 race cars (24 wheels) and 7 tricycles (21 wheels)
- 3 race cars (12 wheels) and 11 tricycles (33 wheels)

Accept any other correct answer

Add up to 5 Challenge

- 05
- 14
- 23
- 32
- 41
- 50

Spotting Shapes

- 12 triangles
- 14 rectangles