

Contents

Number, Patterns & Algebra

- 1 Total of ten
- 2 Total of twelve
- 3 Number sentences
- 4 Add or subtract
- 5 Number patterns
- 6 What comes next?
- 7 Continue the pattern
- 8 Bricks
- 9 Counter puzzles
- 10 What number fits?
- 11 Place the numbers
- 12 Numbers in circles
- 13 Numbers in triangles
- 14 Abacus numbers
- 15 Which abacus number?
- 16 Abacus addition
- 17 Abacus subtraction
- 18 Abacus challenge
- 19 Grid sums
- 20 Find my start
- 21 Parts of shapes
- 22 Fractions
- 23 Find the value
- 24 Halves and quarters
- 25 How many apples?
- 26 Number line
- 27 Bowling pins
- 28 Missing numbers
- 29 Dice puzzles
- 30 Who am I?
- 31 Space arithmetic

- 32 Shape puzzles
- 33 Find my rule
- 34 Sum of digits
- 35 Difference of digits
- 36 Money
- 37 Shopping
- 38 Patterns
- 39 Tile patterns
- 40 Square tiles

Chance & Data

- 41 What's the chance?
- 42 Shading blocks
- 43 Different shading
- 44 Flag patterns
- 45 Shading circles
- 46 Picture graphs
- 47 Birthday graphs
- 48 Favourite subjects
- 49 Weather
- 50 Test results
- 51 Class captain

Measurement

- 52 How long?
- 53 Measure the rocket
- 54 Long or short?
- 55 Find the temperature
- 56 Time
- 57 What day?
- 58 May days
- 59 Check the calendar
- 60 Scales
- 61 Scales continued
- 62 Perimeter

- 63 Temperature facts?
- 64 Measurement facts?

Space

- 65 Building blocks
- 66 Moving blocks
- 67 Enlarging figures
- 68 Same shapes
- 69 Combining shapes
- 70 Making triangles
- 71 Making squares
- 72 In a line
- 73 Match the objects
- 74 Tessellations
- 75 Spatial reasoning

Working

Mathematically

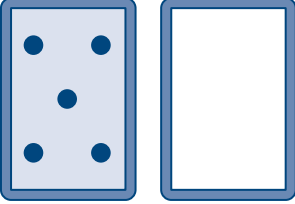
- 76 Shapes and values
- 77 Odd one out
- 78 Complete the picture
- 79 How many squares?
- 80 Shading halves
- 81 Drawing lines
- 82 No threes
- 83 Balancing act
- 84 Balance
- 85 Find your balance
- 86 Number of pins?
- 87 Grid puzzles
- 88 Gridlock

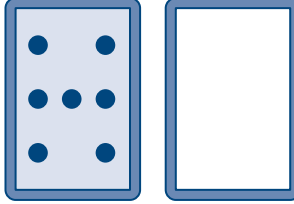
ANSWERS

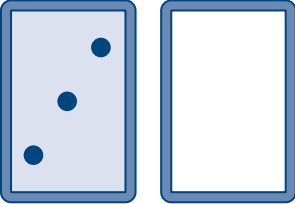
lift-out in centre of book

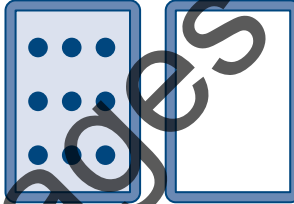
Total of ten

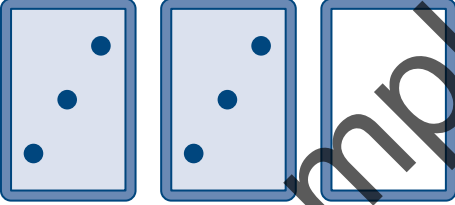
Fill in the blank cards to make a total of 10.

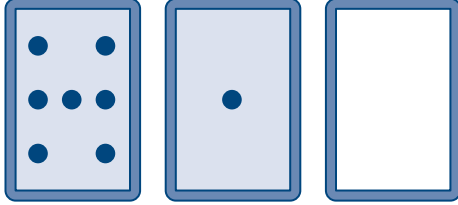
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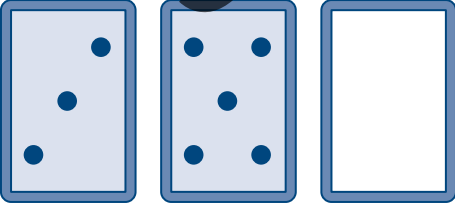
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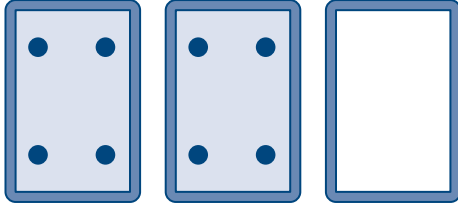
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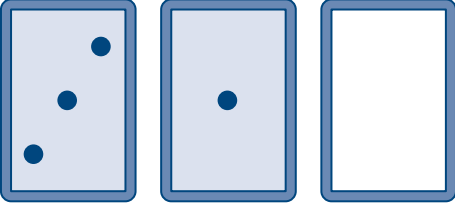
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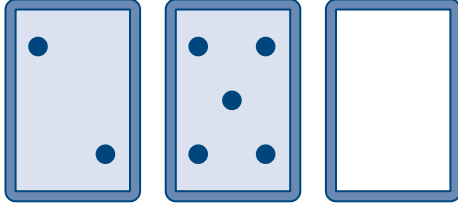
5 

6 

7 

8 

9 

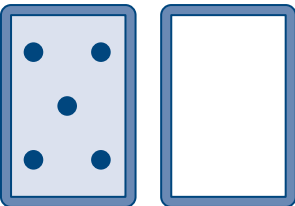
10 

Sample pages

Total of twelve

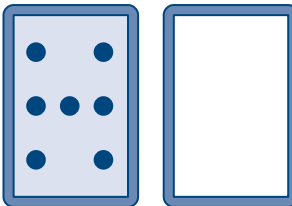
Fill in the blank cards to make a total of 12.

1



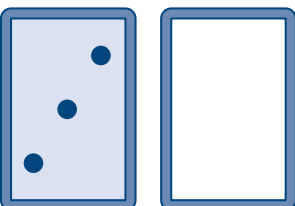
A card with 5 dots (two in the top corners, one in the center, and two in the bottom corners) and an empty card.

2



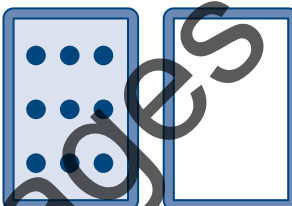
A card with 8 dots (two in the top corners, two in the middle, and two in the bottom corners) and an empty card.

3



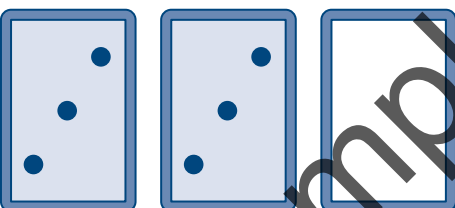
A card with 3 dots (one in the top right, one in the middle, and one in the bottom left) and an empty card.

4



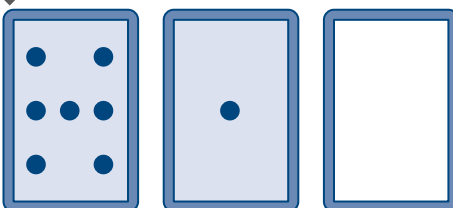
A card with 10 dots (two in the top corners, four in the middle, and two in the bottom corners) and an empty card.

5



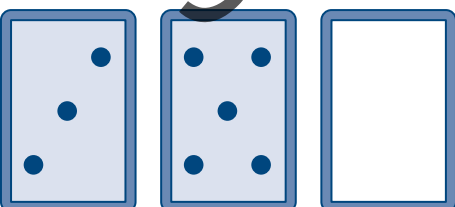
Two cards with 3 dots each (one in the top right, one in the middle, and one in the bottom left) and an empty card.

6



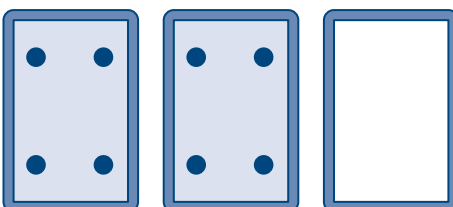
A card with 8 dots (two in the top corners, two in the middle, and two in the bottom corners), a card with 1 dot in the center, and an empty card.

7



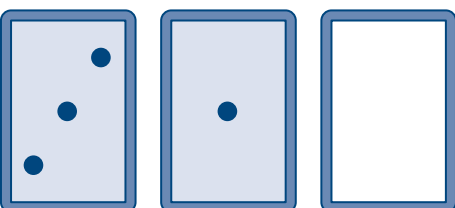
A card with 3 dots (one in the top right, one in the middle, and one in the bottom left), a card with 5 dots (two in the top corners, one in the center, and two in the bottom corners), and an empty card.

8



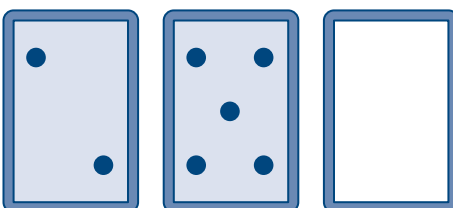
Two cards with 2 dots each (one in the top left and one in the bottom right) and an empty card.

9



A card with 3 dots (one in the top right, one in the middle, and one in the bottom left), a card with 1 dot in the center, and an empty card.

10



A card with 1 dot in the top left, a card with 5 dots (two in the top corners, one in the center, and two in the bottom corners), and an empty card.

Number sentences



Equipment: 10 counters

Use 1, 2, 3, 4 or 5 in each question to complete the number sentences.

Work out your answers by trying different counters in the spaces.

1 $2 + \underline{\quad} = 3$

2 $3 + \underline{\quad} = 5$

3 $1 + \underline{\quad} = 6$

4 $4 + \underline{\quad} = 8$

5 $2 + \underline{\quad} = 7$

6 $6 + \underline{\quad} = 7$

7 $6 + \underline{\quad} = 10$

8 $4 - \underline{\quad} = 1$

9 $6 - \underline{\quad} = 2$

10 $8 - \underline{\quad} = 3$

11 $6 - \underline{\quad} = 4$

12 $5 - \underline{\quad} = 2$

13 $7 - \underline{\quad} = 3$

14 $\underline{\quad} - 3 = 2$



Add or subtract

To make $5 \square 3 = 8$ into a number sentence, we need the symbol $+$, since $5 + 3 = 8$.

To make $5 \square 3 = 2$ into a number sentence, we need the symbol $-$, since $5 - 3 = 2$.

In the following questions, write the missing $+$ or $-$ signs in the boxes to make a number sentence.

1 $3 \square 2 = 5$

2 $2 \square 1 = 1$

3 $4 \square 2 = 2$

4 $4 \square 5 = 9$

5 $7 \square 4 = 3$

6 $7 \square 3 = 10$

7 $4 \square 4 = 0$

8 $10 \square 9 = 1$

9 $4 \square 2 = 6$

10 $4 \square 3 = 1$

11 $8 \square 2 = 6$

12 $8 \square 2 = 10$

13 $6 \square 2 = 8$

14 $9 \square 2 = 7$

15 $10 \square 10 = 20$

16 $10 \square 3 = 7$

Number patterns

To find the next two numbers in the pattern 2, 5, 8, 11, _____, _____ we need to look at the differences between the numbers.



Write down the next two numbers in these patterns.

- 1** 5, 7, 9, 11, _____, _____
- 2** 1, 4, 7, 10, _____, _____
- 3** 15, 13, 11, 9, _____, _____
- 4** 4, 6, 8, 10, _____, _____
- 5** 5, 10, 15, 20, _____, _____
- 6** 10, 20, 30, 40, _____, _____
- 7** 90, 80, 70, 60, _____, _____
- 8** 3, 13, 23, 33, _____, _____
- 9** 11, 22, 33, 44, _____, _____
- 10** 24, 22, 20, 18, _____, _____

What comes next?

Write down the next two numbers in these patterns.

1 12, 15, 18, 21, _____ , _____

2 3, 6, 9, 12, _____ , _____

3 18, 17, 16, 15, _____ , _____

4 88, 77, 66, 55, _____ , _____

5 21, 19, 17, 15, _____ , _____

6 35, 30, 25, 20, _____ , _____

7 11, 21, 31, 41, _____ , _____

8 4, 14, 24, 34, _____ , _____

9 23, 20, 17, 14, _____ , _____

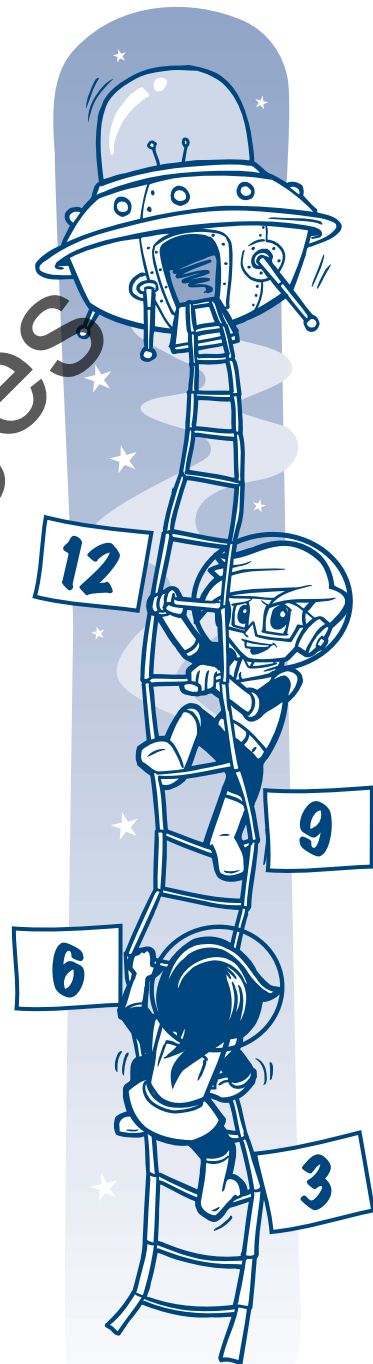
10 22, 24, 26, 28, _____ , _____

11 40, 35, 30, 25, _____ , _____

12 30, 28, 26, 24, _____ , _____

13 87, 77, 67, 57, _____ , _____

14 1, 5, 9, 13, _____ , _____



Continue the pattern

Look for a pattern in the numbers below and continue it for the rest of the line. It might help you to read the pattern aloud.

1 8642 8642 8642 _____

2 12345 12345 12345 _____

3 357 99 357 99 _____

4 1223 1223 1223 _____

5 9876 9876 9876 _____

6 2468 2468 2468 _____

7 220 30 220 30 220 _____

8 7339 7339 7339 _____

9 5445 5445 5445 _____

10 97579 97579 97579 _____

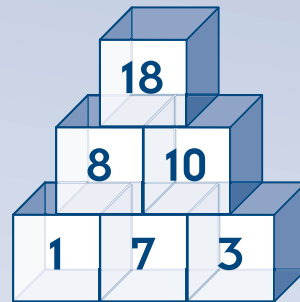
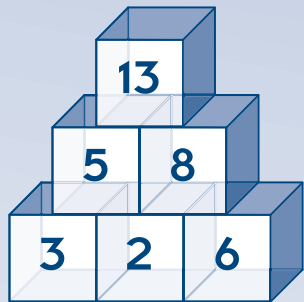
11 5311 5311 5311 _____

12 123 321 123 321 _____

Sample pages

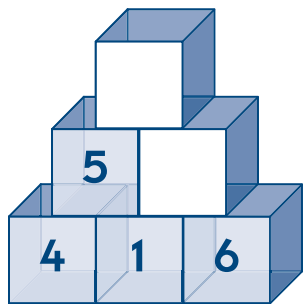
Bricks

A tower of bricks is built so that each new brick that is placed on top of two bricks is the sum of the numbers on these two bricks.

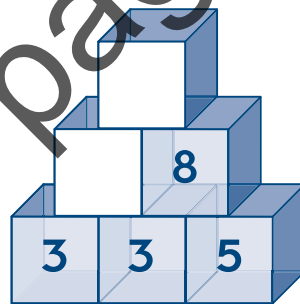


Find the value of each missing brick.

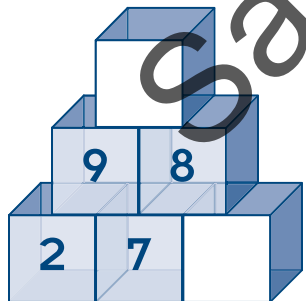
1



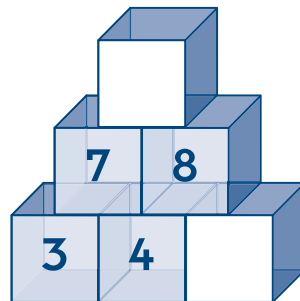
2



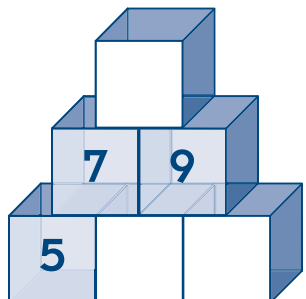
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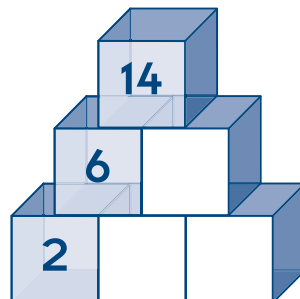
4



5



6



Sample pages

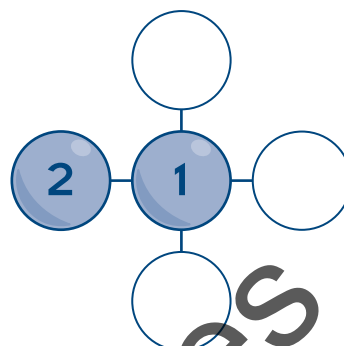
Counter puzzles



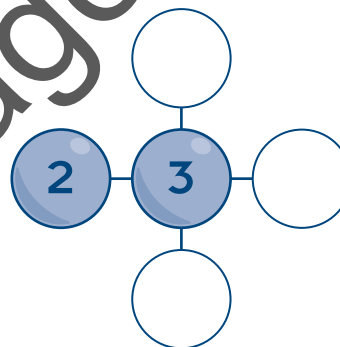
Equipment: one set of counters numbered 1, 2, 3, 4, 5 and 6

Place counters in the circles to help work out these puzzles.

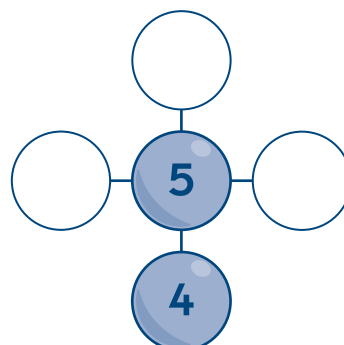
- 1** Place the numbers 3, 4 and 5 in the circles so that the sum of the numbers in each line is 8.



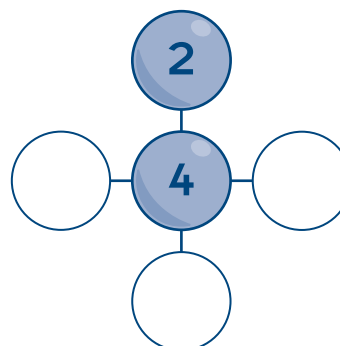
- 2** Place the numbers 1, 4 and 5 in the circles so that the sum of the numbers in each line is 9.



- 3** Place the numbers 1, 2 and 3 in the circles so that the sum of the numbers in each line is 10.



- 4** Place the numbers 3, 5 and 6 in the circles so that the sum of the numbers in each line is 12.



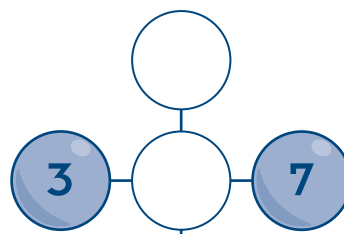
What number fits?



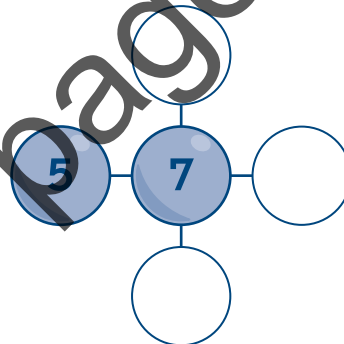
Equipment: one set of counters numbered 1, 2, 3, 4, 5, 6 and 7

Place counters in the circles to help work out these puzzles.

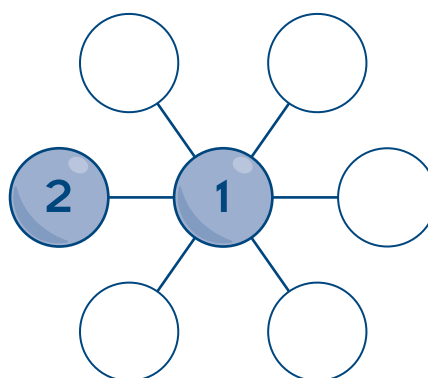
- 1** Place the numbers 4, 5 and 6 in the circles so that the sum of the numbers in each line is 15.



- 2** Place the numbers 3, 4 and 6 in the circles so that the sum of the numbers in each line is 16.



- 3** Arrange the numbers 3, 4, 5, 6 and 7 in the circles so that the sum of the numbers in each line is 10.



- 4** Arrange the numbers 2, 3, 4, 5 and 6 in the circles so that the sum of the numbers in each line is 14.

