

Mathematical bingo

Maths focus: using mental facts and strategies to work quickly and accurately.

Learning objective: Stage 6 Mental maths

A game for the whole class

You will need:

For the leader (teacher):

- Master bingo grid (page 2).
- Game cards (page 3).
- Check sheet (game cards not cut up).

For each player:

- Blank bingo grid (page 4).
- Counters (or pencil).

How to play

1. Give each player a blank bingo grid and display a copy of the master bingo grid.
2. Each player chooses four numbers from each column of the master grid and writes them in their blank bingo grid.
3. The leader shuffles the game cards, then takes one card at a time and reads out **one** question. At the same time, they place a counter over that card on their check sheet (without letting the players see the answer).
4. Players who have the answer on their bingo grid cover it with a counter (or cross it off in pencil).
5. The first player to cover all the answers in their grid is the winner and shouts 'Bingo!'
6. The leader checks the winning card.

Place the numbers in the square

Maths focus: revising number properties such as multiple, factor, square, prime, odd/even, double/halve and $<$ and $>$.

Learning objective: Stage 6 Mental maths

A game for teams of two to four players

Each team will need:

- Game board (page 5).
- Game cards (page 6).
- 1–9 number cards (page 7).

How to play

1. Divide the class into teams of two to four.
2. Give the following 'How to play' instruction:
 'Work with your team to place the numbers 1 to 9 on the game board, following the rules on the clue cards.'
3. The winning team is the first team to finish.

As teams finish, ask: 'What is special about the square?'

Answer:

| | | |
|---|---|---|
| 2 | 7 | 6 |
| 9 | 5 | 1 |
| 4 | 3 | 8 |

It is a magic square (each horizontal, vertical and diagonal adds up to the same total, 15 in this case).

Mathematical bingo – Master bingo grid

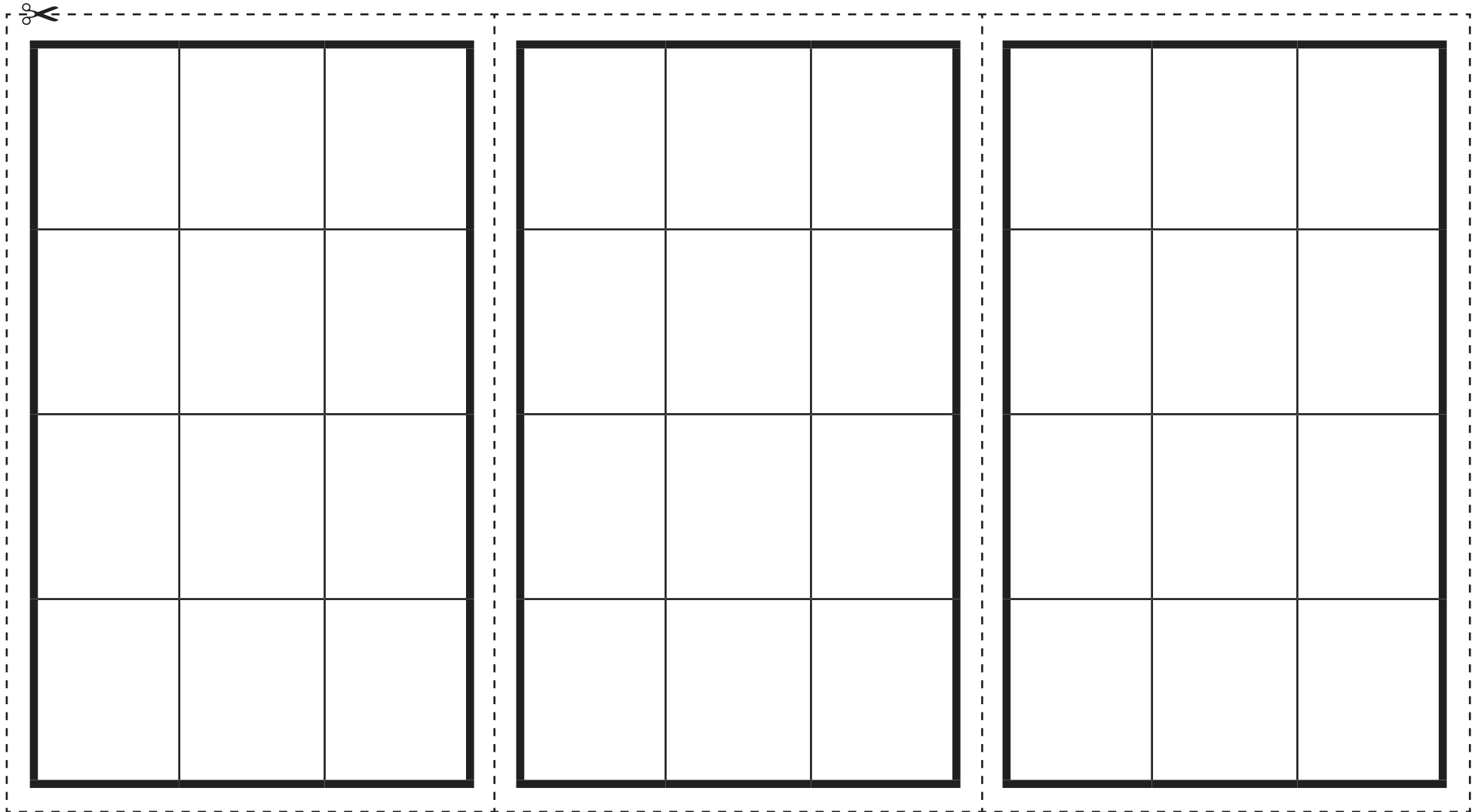
| | | |
|----|----|-----|
| 35 | 60 | 100 |
| 32 | 54 | 96 |
| 30 | 50 | 90 |
| 28 | 48 | 84 |
| 24 | 45 | 81 |
| 20 | 42 | 80 |
| 18 | 40 | 72 |
| 12 | 36 | 66 |

Mathematical bingo – Game cards

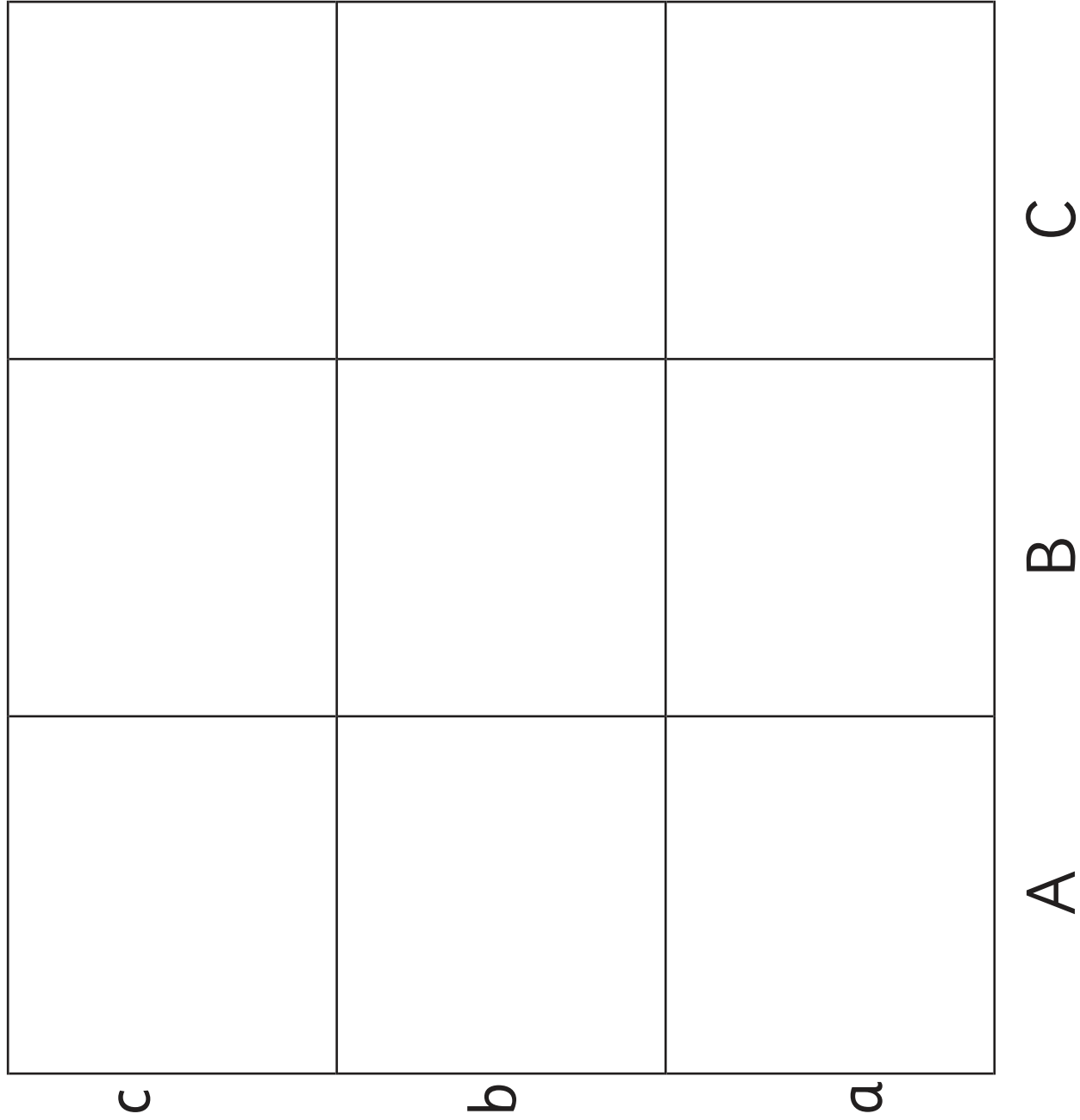
Make two copies of this sheet: one to create the cards, the other as a checklist.

| | | |
|---|---|--|
| <p>12</p> <ul style="list-style-type: none"> • Smallest multiple of 3 and 4 • Add 6.7 and 5.3 • Smallest multiple of 6 that is greater than 10 | <p>18</p> <ul style="list-style-type: none"> • Smallest multiple of 2 and 9 • Add 8.9 and 9.1 • 3 squared, then double the answer | <p>20</p> <ul style="list-style-type: none"> • Smallest multiple of 4 and 5 • Add 15.4 and 4.6 • Add 3.7 and 6.3, then double the answer |
| <p>24</p> <ul style="list-style-type: none"> • Smallest multiple of 3 and 8 • 5 squared, then subtract 1 • The product of 2 and 12 | <p>28</p> <ul style="list-style-type: none"> • Smallest multiple of 4 and 7 • 14 multiplied by 2 • The product of 2 squared and 7 | <p>30</p> <ul style="list-style-type: none"> • Smallest multiple of 3 and 10 • Add 7.3 and 2.7, then multiply the result by 3 • Multiply 15 by 2 |
| <p>32</p> <ul style="list-style-type: none"> • A multiple of 4 between 30 and 35 • 4 squared, doubled • 16 multiplied by 2 | <p>35</p> <ul style="list-style-type: none"> • Smallest multiple of 5 and 7 • 6 squared subtract 1 • 100.5 subtract 65.5 | <p>36</p> <ul style="list-style-type: none"> • Smallest multiple of 6 greater than 30 • 6 squared • 100 minus 8 squared |
| <p>40</p> <ul style="list-style-type: none"> • Smallest multiple of 8 greater than 38 • 3 multiplied by 13, then add 1 • Add 5.1 and 4.9 and multiply the result by 4 | <p>42</p> <ul style="list-style-type: none"> • Smallest multiple of 6 and 7 • 14 multiplied by 3 • 7 squared minus 7 | <p>45</p> <ul style="list-style-type: none"> • Smallest multiple of 5 and 9 • Half of 90 • The product of 15 and 3 |
| <p>48</p> <ul style="list-style-type: none"> • Largest multiple of 4 less than 50 • 12 multiplied by 4 • Add 5.9 and 6.1, then multiply the result by 4 | <p>50</p> <ul style="list-style-type: none"> • 25 multiplied by 2 • Add 7.4 and 2.6, then multiply the result by 5 • 7 squared plus 1 | <p>54</p> <ul style="list-style-type: none"> • Smallest multiple of 9 greater than 50 • 3 squared times 6 • 18 times 3 |
| <p>60</p> <ul style="list-style-type: none"> • Smallest multiple of 5 and 12 • 3 multiplied by 19 then add 3 • Add 3.7 and 6.3 and multiply the result by 6 | <p>66</p> <ul style="list-style-type: none"> • Smallest multiple of 11 greater than 60 • 6 squared add 30 • Multiply 22 by 3 | <p>72</p> <ul style="list-style-type: none"> • 25 times 3 then subtract 3 • Double 36 • The product of 12 and 6 |
| <p>80</p> <ul style="list-style-type: none"> • Add 3.9 and 6.1, then multiply the result by 8 • 16 times 5 • 100.5 subtract 20.5 | <p>81</p> <ul style="list-style-type: none"> • 79.8 plus 1.2 • 9 squared • Multiply 27 by 3 | <p>84</p> <ul style="list-style-type: none"> • Smallest multiple of 7 greater than 80 • 14 multiplied by 6 • The product of 12 and 7 |
| <p>90</p> <ul style="list-style-type: none"> • Add 4.9 and 5.1 and multiply the result by 9 • The product of 15 and 6 • Multiply 45 by 2 | <p>96</p> <ul style="list-style-type: none"> • 25 multiplied by 4, then subtract 4 • 12 times 8 • 10 squared minus 2 squared | <p>100</p> <ul style="list-style-type: none"> • 25 multiplied by 4 • 10 squared • 4.9 add 5.1 then square the result |


Mathematical bingo – Blank bingo grids



Place the numbers in the square – Game board



Place the numbers in the square – Game cards

| | | | |
|---|--|--|--|
|  Place each number on the game board. | The even numbers are in squares Aa, Ac, Ca and Cc. | Each square on the game board is identified by a pair of letters, for example the top left square is Ac. | The number in Ab + the number in Bc = double the number in Ca. |
| The prime numbers are in squares Ac, Ba, Bb and Bc. | The square numbers are in squares Aa, Ab and Cb. | Multiples of 3 are in squares Ab, Ba and Cc. | The number in Ba is half of the number in Cc. |
| The number in Ca is double the number in Aa. | The numbers in squares Aa, Ac and Cb are factors of the number in square Ca. | The number in Ac > the number in Cb. | The number in Bb < the number in Bc. |

Place the numbers in the square – 1–9 number cards



Sequence trail

Maths focus: generating terms of a sequence.

Learning objective: 6Nc.01

A game for individuals (or pairs)

You will need:

- A set of trail cards (pages 9–26).
- Recording sheet for each player (page 27).

How to play

1. Place the trail cards in prominent positions around the room (with the numbers in ascending numerical order).
2. Give each player (or pair of players) a recording sheet.
3. Players can start at any card. They record the large number at the top of their chosen trail card in one of the circles on their recording sheet. They answer the question on the trail card and record the answer on their recording sheet, in the circle to the **right** of their starting number. Then they find the trail card with this number at the top of it.
4. Players answer the question on the new trail card, write the answer on their recording sheet (in the circle to the right of their previous answer), then find the next trail card. They continue in this way until they have written a number in every circle on their recording sheet.
5. The winner is the first player (or pair of players) to complete their loop correctly.

An alternative to a classroom trail is to reduce the cards in size and give a set to a pair of players to place in a loop.

Answers (start anywhere in the loop):

$-60 \rightarrow -35 \rightarrow 6 \rightarrow 65 \rightarrow 2 \rightarrow 15 \rightarrow -2 \rightarrow 17 \rightarrow 1025 \rightarrow 1046 \rightarrow 8 \rightarrow 13$
 $\rightarrow 108 \rightarrow 68 \rightarrow 5 \rightarrow 14 \rightarrow 81 \rightarrow 4 \rightarrow$

Example trail card

-60

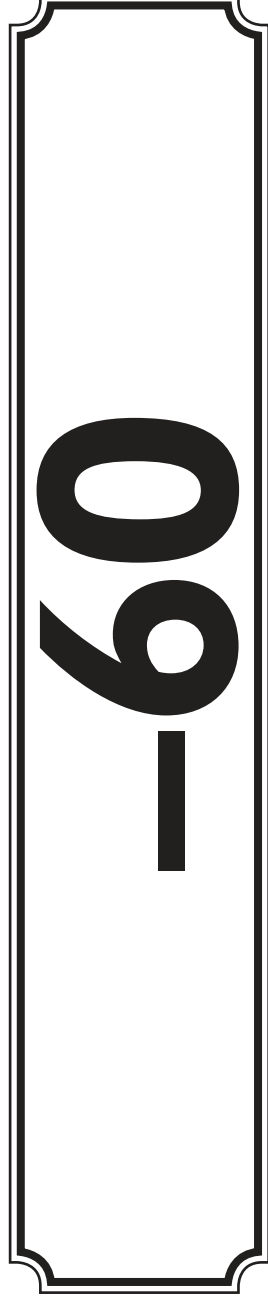
Sara makes a sequence of numbers starting with 100.
 She subtracts 45 each time.

100 55 10

What is the next number in the sequence?

Note: It is important to make it clear to the players that the answer sheet does **not** generate a sequence: it simply represents a loop generated between the game cards. The practice with sequences comes only from the questions on the trail cards, while the recording sheet is merely a way for players to record which trail cards they have visited and which card they need to visit next.

Sequence trail – Trail cards



Sara makes a sequence of numbers starting with 100.
She subtracts 45 each time.

100 **55** **10**



What is the next number in the sequence?

-35

Pablo makes a sequence of 5 numbers.

The first number is 2 and the last number is 18.

His rule is to add the same amount each time.

2

18

What is the next number after 2?