

# 11+ Maths Practice Paper

## Year 4 · Foundation

### Lesson 1.4: Number line dynamics and negative numbers

#### Read this with your child:

1. This paper has **20 questions** in two parts. Work through them in order. The questions get harder as you go.
2. **Part 1** is multiple choice. Choose **one** answer, A, B, C, D or E, and mark it on the separate answer sheet by drawing a firm line through the box next to its letter. If you change your mind, rub the line out completely and mark your new answer.
3. **Part 2** asks you to write your answer. Write it in the boxes on the answer sheet, **one digit in each box**, starting from the left.
4. If a question is hard, leave it and come back to it at the end.
5. You may use rough paper for working out. You may **not** use a calculator.
6. Suggested time: **25 minutes**.

The answer sheet is after the questions. The answers, with a short explanation of each, are at the back for a parent to mark with.

*These are original practice questions written by Elite Learners in the style of 11+ entrance tests. They are not produced by, or connected with, GL Assessment or Cambridge University Press & Assessment (CEM).*

## Example

A number line goes from 0 to 20 in 4 equal gaps.

**What is each gap worth?**

**A** 10

**B** 4

**C** 20

**D** 5

**E** 2

**Answer: D**  $20 \div 4 = 5$ . Count the gaps, not the marks.

*The answer, D, has already been marked on your answer sheet.*

**Now turn over and start Part 1.**

## Part 1: Multiple choice

1

What number is 2 less than 1?

- A 1                      B -1                      C -2                      D 3                      E 0

2

Which temperature is the coldest?

- A 3 °C                      B -2 °C                      C 0 °C                      D -6 °C                      E 1 °C

3

A number line goes from 0 to 50 in 5 equal gaps.

What is each gap worth?

- A 10                      B 5                      C 50                      D 25                      E 1

4

Which number is halfway between 10 and 20?

- A 12                      B 10                      C 30                      D 5                      E 15

5

It is -3 °C. It gets 5 degrees warmer. What is the temperature now?

- A 8 °C                      B -8 °C                      C 2 °C                      D -2 °C                      E 3 °C

6

Count back in 2s: 4, 2, 0, ...

What comes next?

- A -4                      B 2                      C -1                      D 1                      E -2

7

Which list is in order, smallest first?

- A  $-2 \cdot -5 \cdot 0 \cdot 3$
- B  $-5 \cdot -2 \cdot 0 \cdot 3$
- C  $0 \cdot -2 \cdot -5 \cdot 3$
- D  $3 \cdot 0 \cdot -2 \cdot -5$
- E  $-5 \cdot 0 \cdot -2 \cdot 3$

8

A number line goes from 100 to 200 in 4 equal gaps.

What is each gap worth?

- A 100
- B 20
- C 50
- D 25
- E 4

9

A number line goes from 100 to 200 in 4 equal gaps.

What number is 2 marks after 100?

- A 102
- B 120
- C 150
- D 125
- E 175

10

Which number is halfway between 30 and 50?

- A 40
- B 35
- C 45
- D 80
- E 20

11

It is  $4^{\circ}\text{C}$ . The temperature falls by 6 degrees. What is it now?

- A  $10^{\circ}\text{C}$
- B  $2^{\circ}\text{C}$
- C  $-10^{\circ}\text{C}$
- D  $-2^{\circ}\text{C}$
- E  $-1^{\circ}\text{C}$

12

Which number is bigger than  $-3$ ?

- A  $-4$
- B  $-5$
- C  $-1$
- D  $-10$
- E  $-3$

13

A number line goes from 0 to 1 in 10 equal gaps.

What is each gap worth?

- A 0.1
- B 1
- C 10
- D 0.01
- E 0.5

14

Which number is halfway between 46 and 60?

A 56

B 14

C 7

D 50

E 53

15

It is  $-1^{\circ}\text{C}$  at night. In the day it is  $7^{\circ}\text{C}$ .

How many degrees warmer is the day?

A 6

B 8

C 7

D  $-8$

E 1

## Part 2: Write your answer

16

A number line goes from 0 to 40 in 8 equal gaps.

What is each gap worth?

Write your answer in the boxes on the answer sheet, one digit in each box.

17

Which number is halfway between 20 and 60?

Write your answer in the boxes on the answer sheet, one digit in each box.

18

It is  $6^{\circ}\text{C}$ . The temperature falls by 4 degrees.

What is the temperature now, in  $^{\circ}\text{C}$ ?

Write your answer in the boxes on the answer sheet, one digit in each box.

19

A number line goes from 0 to 200 in 4 equal gaps.

What number is 3 marks after 0?

Write your answer in the boxes on the answer sheet, one digit in each box.

20

It is  $-4^{\circ}\text{C}$ . It rises to  $3^{\circ}\text{C}$ .

By how many degrees did it rise?

Write your answer in the boxes on the answer sheet, one digit in each box.

# Answer sheet

11+ Maths Practice Paper · Year 4 · Lesson 1.4: Number line dynamics and negative numbers

Name .....

Draw a firm line through the box next to your answer, like the example.

## Part 1: Multiple choice

|           |                            |                            |                            |                                       |                            |
|-----------|----------------------------|----------------------------|----------------------------|---------------------------------------|----------------------------|
| <b>Ex</b> | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input checked="" type="checkbox"/> | E <input type="checkbox"/> |
| <b>1</b>  | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>2</b>  | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>3</b>  | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>4</b>  | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>5</b>  | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>6</b>  | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>7</b>  | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>8</b>  | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>9</b>  | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>10</b> | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>11</b> | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>12</b> | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>13</b> | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>14</b> | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |
| <b>15</b> | A <input type="checkbox"/> | B <input type="checkbox"/> | C <input type="checkbox"/> | D <input type="checkbox"/>            | E <input type="checkbox"/> |

## Part 2: Write your answer, one digit in each box

|           |                         |           |                                     |
|-----------|-------------------------|-----------|-------------------------------------|
| <b>16</b> | <div></div>             | <b>19</b> | <div></div> <div></div> <div></div> |
| <b>17</b> | <div></div> <div></div> | <b>20</b> | <div></div>                         |
| <b>18</b> | <div></div>             |           |                                     |

# Answers

For a parent to mark with. One mark for each question: the paper is out of 20. Talk through any your child got wrong, using the explanation.

| Q  | Answer            | How to get it                                                     |
|----|-------------------|-------------------------------------------------------------------|
| 1  | B -1              | Count back 1 to reach 0, then 1 more: -1.                         |
| 2  | D -6 °C           | The coldest is the furthest below zero: -6 °C.                    |
| 3  | A 10              | $50 \div 5 = 10$ .                                                |
| 4  | E 15              | The gap is 10. Half of it is 5. $10 + 5 = 15$ .                   |
| 5  | C 2 °C            | Up 3 to 0 °C, then 2 more: 2 °C.                                  |
| 6  | E -2              | 2 less than 0 is -2.                                              |
| 7  | B -5 · -2 · 0 · 3 | The further left on the number line, the smaller: -5 is smallest. |
| 8  | D 25              | The difference is 100. $100 \div 4 = 25$ .                        |
| 9  | C 150             | Each gap is worth 25. 100, 125, 150.                              |
| 10 | A 40              | The gap is 20. Half of it is 10. $30 + 10 = 40$ .                 |
| 11 | D -2 °C           | Down 4 to 0 °C, then 2 more: -2 °C.                               |
| 12 | C -1              | -1 is to the right of -3 on the number line, so it is bigger.     |
| 13 | A 0.1             | 1 whole shared into 10 gaps: each is 1 tenth, 0.1.                |
| 14 | E 53              | The gap is 14. Half of it is 7. $46 + 7 = 53$ .                   |
| 15 | B 8               | Up 1 to 0 °C, then 7 more: 8 degrees.                             |
| 16 | 5                 | $40 \div 8 = 5$ .                                                 |
| 17 | 40                | The gap is 40. Half of it is 20. $20 + 20 = 40$ .                 |
| 18 | 2                 | $6 - 4 = 2$ .                                                     |
| 19 | 150               | Each gap is worth 50. 50, 100, 150.                               |
| 20 | 7                 | Up 4 to 0 °C, then 3 more: 7 degrees.                             |

Score: ..... out of 20