

11+ Maths Practice Paper

Year 4 · Foundation

Lesson 5.3: Algebraic expressions and substitution

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

Here is an expression: $n + 4$

$$n = 6$$

What is the value of the expression?

A 10

B 11

C 2

D 24

E 64

Answer: A Swap n for 6: $6 + 4 = 10$.

The answer, A, has already been marked on your answer sheet.

Now turn over and start Part 1.

Part 1: Multiple choice

1

Here is an expression: $5n$

What does it mean?

A $n - 5$

B $5 + n$

C $5 \times n$

D $n \div 5$

E $n + n$

2

A bag holds b sweets. Sam puts 3 more sweets in the bag.

Which expression shows how many sweets are in the bag now?

A $3b$

B $b - 3$

C $3 - b$

D $b + 3$

E $b \div 3$

3

Ali writes $n \times n$ the short way.

What does he write?

A $2n$

B n^2

C n^3

D $n + 2$

E $2 + n$

4

Think of a number, y . Take 7 away from it.

Which expression is this?

A $y \div 7$

B $7y$

C $y + 7$

D $7 - y$

E $y - 7$

5

Here is an expression: $n + 8$

$n = 9$

What is the value of the expression?

A 17

B 72

C 98

D 1

E 18

6

Here is an expression: $3n$

$n = 4$

What is the value of the expression?

A 1

B 12

C 7

D 43

E 34

7

Here is an expression: $m - 6$
 $m = 15$

What is the value of the expression?

- A** 90 **B** 21 **C** 10 **D** 9 **E** 8

8

Here is an expression: $a + b$
 $a = 7$ and $b = 5$

What is the value of the expression?

- A** 13 **B** 2 **C** 12 **D** 75 **E** 35

9

Here is an expression: $5 + n$

Which expression is always the same?

- A** $5n$ **B** $n \div 5$ **C** $n - 5$ **D** $5 - n$ **E** $n + 5$

10

Here is an expression: $n \div 3$
 $n = 12$

What is the value of the expression?

- A** 15 **B** 9 **C** 4 **D** 36 **E** 3

11

A pencil costs p pence. Ella buys 6 pencils.

Which expression shows the cost of the pencils, in pence?

- A** $p \div 6$ **B** $6p$ **C** $6 - p$ **D** $p - 6$ **E** $p + 6$

12

Here is an expression: n^2
 $n = 6$

What is the value of the expression?

- A** 26 **B** 8 **C** 12 **D** 36 **E** 62

13

Here is an expression: $2t + 1$

$$t = 5$$

What is the value of the expression?

A 26

B 8

C 12

D 10

E 11

14

Think of a number, n . Double it, then add 3.

Which expression is this?

A $2n + 3$

B $2(n + 3)$

C $3n + 2$

D $n^2 + 3$

E $n + 2 + 3$

15

Here is an expression: $20 - n$

$$n = 8$$

What is the value of the expression?

A 11

B 28

C 13

D 2

E 12

Part 2: Write your answer

16

Here is an expression: $6n$

$$n = 7$$

What is the value of the expression?

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

17

Here is an expression: $a - b$

$$a = 9 \text{ and } b = 4$$

What is the value of the expression?

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

18

Here is an expression: $4k + 5$

$$k = 3$$

What is the value of the expression?

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

19

Here is an expression: $3n - 4$

$$n = 10$$

What is the value of the expression?

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

20

A taxi ride costs $2m + 3$ pounds, where m is the number of miles.

How many pounds does a 9 mile ride cost?

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

Answer sheet

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Name

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

Part 1: Multiple choice

Ex	A ☒	B ☐	C ☐	D ☐	E ☐
1	A ☐	B ☐	C ☐	D ☐	E ☐
2	A ☐	B ☐	C ☐	D ☐	E ☐
3	A ☐	B ☐	C ☐	D ☐	E ☐
4	A ☐	B ☐	C ☐	D ☐	E ☐
5	A ☐	B ☐	C ☐	D ☐	E ☐
6	A ☐	B ☐	C ☐	D ☐	E ☐
7	A ☐	B ☐	C ☐	D ☐	E ☐
8	A ☐	B ☐	C ☐	D ☐	E ☐
9	A ☐	B ☐	C ☐	D ☐	E ☐
10	A ☐	B ☐	C ☐	D ☐	E ☐
11	A ☐	B ☐	C ☐	D ☐	E ☐
12	A ☐	B ☐	C ☐	D ☐	E ☐
13	A ☐	B ☐	C ☐	D ☐	E ☐
14	A ☐	B ☐	C ☐	D ☐	E ☐
15	A ☐	B ☐	C ☐	D ☐	E ☐

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

16		19	
17		20	
18			

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	C $5 \times n$	A number next to a letter means multiply: $5n$ means $5 \times n$.
2	D $b + 3$	There are b sweets, then 3 more: $b + 3$.
3	B n^2	$n \times n$ is n squared, written n^2 . $2n$ would mean $n + n$.
4	E $y - 7$	Start with y and take 7 away: $y - 7$.
5	A 17	Swap n for 9: $9 + 8 = 17$.
6	B 12	$3n$ means $3 \times n$: $3 \times 4 = 12$, not 34.
7	D 9	Swap m for 15: $15 - 6 = 9$.
8	C 12	Swap each letter for its own number: $7 + 5 = 12$.
9	E $n + 5$	Adding works in any order, so $5 + n$ is the same as $n + 5$.
10	C 4	Swap n for 12: $12 \div 3 = 4$.
11	B $6p$	6 pencils cost 6 lots of p pence: $6p$.
12	D 36	n^2 means $n \times n$: $6 \times 6 = 36$. (12 would be $2n$.)
13	E 11	Multiply first: $2 \times 5 = 10$, then $10 + 1 = 11$.
14	A $2n + 3$	Double n is $2n$. Then add 3: $2n + 3$.
15	E 12	Swap n for 8: $20 - 8 = 12$.
16	42	$6n$ means $6 \times n$: $6 \times 7 = 42$.
17	5	Swap each letter for its own number: $9 - 4 = 5$.
18	17	Multiply first: $4 \times 3 = 12$, then $12 + 5 = 17$.
19	26	Multiply first: $3 \times 10 = 30$, then $30 - 4 = 26$.
20	21	Swap m for 9: $2 \times 9 + 3 = 18 + 3 = 21$. The ride costs £21.

Score: out of 20