

11+ Maths Practice Paper

Year 6 · Advanced

Lesson 2.4: Order of operations (BIDMAS/BODMAS)

Read this with your child:

1. This paper has **27 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: **35 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

What is $120 - 4 \times (3 + 2)^2$?

A 2,900

B 68

C 100

D 20

E 40

Answer: D Brackets first: $3 + 2 = 5$. Indices: $5^2 = 25$. Multiply: $4 \times 25 = 100$. Then $120 - 100 = 20$.

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

Now turn over and start Part 1.

Part 1: Multiple choice

1

What is $8 + 2 \times 3^2$?

A 90

B 44

C 26

D 18

E 35

2

What is $2^3 + 4^2$?

A 24

B 14

C 8

D 40

E 18

3

What is $(18 - 3 \times 4) \times 5$?

A 300

B 75

C 15

D 55

E 30

4

What is $96 \div 4 \div 2 \times 3$?

A 4

B 36

C 144

D 9

E 16

5

$7 \ ? \ 3 + 4 \times 2 = 29$

Which sign goes in the gap?

A +

B -

C $\div$

D $\times$

E None of them

6

What is $5 \times (2 + 3 \times (4 - 1))$?

A 55

B 75

C 19

D 45

E 65

7

What is $10^2 - 9^2$?

A 1

B 2

C 19

D 181

E 9

8

Where do brackets go to make $6 + 18 \div 3 + 3 = 9$ true?

- A $(6 + 18) \div 3 + 3$
- B $(6 + 18) \div (3 + 3)$
- C No brackets are needed
- D $6 + (18 \div 3) + 3$
- E $6 + 18 \div (3 + 3)$

9

What is $4 \times 5^2 - (12 + 8) \div 4$?

- A 395
- B 20
- C 98
- D 95
- E 75

10

What is $3^3 - 3^2 - 3$?

- A 21
- B 15
- C 9
- D 3
- E 33

11

Which calculation has the answer 36?

- A $2 + 4^2$
- B $2^2 + 4^2$
- C 2×4^2
- D $(2 \times 4)^2$
- E $(2 + 4)^2$

12

What is $144 \div (2 \times (5 + 1))$?

- A 432
- B 24
- C 2
- D 12
- E 72

13

$8 \ ? \ 2 \ ? \ 3 = 19$

Which signs go in the gaps, in order?

- A $\times$ and $+$
- B $+$ and $\times$
- C $\times$ and $\times$
- D $+$ and $+$
- E $-$ and $\times$

14

What is $2 \times (3 + 4)^2 - 50$?

- A 146
- B 98
- C 48
- D 30
- E 196

15

What is $(5 + 3)^2 \div (10 - 6) \times 2$?

- A 8 B 32 C 16 D 128 E 34
-

16

Lily says $20 - 6 + 4 = 10$.

What mistake did Lily make?

- A She forgot to use brackets
B She worked from left to right
C She multiplied instead of adding
D She made no mistake
E She added before subtracting
-

17

What is $5^3 \div (2 + 3) - 4^2$?

- A 19 B 41 C 25 D 9 E 1
-

18

Put one pair of brackets into $2 \times 3 + 4 \times 5$ to make the answer as big as possible.

What is the biggest answer you can make?

- A 50 B 70 C 46 D 26 E 120
-

19

What is $((6 + 2) \times 3 - 4) \div 5$?

- A 4 B 20 C 12 D 8 E 2
-

20

What is $7^2 - 4 \times 3^2 + 2^3$?

- A 5 B 405 C 21 D 13 E 29

Part 2: Write your answer

21

What is $6 + 7 \times 8$?

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

22

What is $9^2 - 6 \times 7$?

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

23

What is $4 \times (25 - 3 \times 5)$?

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

24

What is $2^3 \times (7 - 4)^2$?

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

25

What is $(100 - 4 \times 3^2) \div 8$?

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

26

What is $3 \times (2 + (12 - 4) \div 2)^2$?

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

27

Put one pair of brackets into $24 - 4 \times 3 + 2$ to make the answer as small as possible.

What is the smallest answer you can make?

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 ☐
16	A ☐	B ☐	C ☐	D ☐	E ☐
17	A ☐	B ☐	C ☐	D ☐	E ☐
18	A ☐	B ☐	C ☐	D ☐	E ☐
19	A ☐	B ☐	C ☐	D ☐	E ☐
20	A ☐	B ☐	C ☐	D ☐	E ☐

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

21		25	
22		26	
23		27	
24			

Answers

For a parent to mark with. One mark for each question: the paper is out of 27. Talk through any your child got wrong, using the explanation.

Q	Answer	How to get it
1	C 26	Indices first: $3^2 = 9$. Then $2 \times 9 = 18$. Then $8 + 18 = 26$.
2	A 24	Indices first: $2^3 = 8$ and $4^2 = 16$. Then $8 + 16 = 24$.
3	E 30	Inside the brackets, multiply first: $3 \times 4 = 12$, then $18 - 12 = 6$. Then $6 \times 5 = 30$.
4	B 36	Equal partners, left to right: $96 \div 4 = 24$, $24 \div 2 = 12$, $12 \times 3 = 36$.
5	D $\times$	$7 \times 3 + 4 \times 2 = 21 + 8 = 29$. With $+$ it makes 18, with $-$ it makes 12, and $\div$ does not give a whole number.
6	A 55	Innermost brackets: $4 - 1 = 3$. Then inside the brackets, multiply first: $3 \times 3 = 9$, and $2 + 9 = 11$. Then $5 \times 11 = 55$.
7	C 19	Indices first: $10^2 = 100$ and $9^2 = 81$. Then $100 - 81 = 19$.
8	E $6 + 18 \div (3 + 3)$	$6 + 18 \div (3 + 3) = 6 + 18 \div 6 = 6 + 3 = 9$. The others make 11, 4, 15 and 15.
9	D 95	Brackets: $12 + 8 = 20$. Indices: $5^2 = 25$. Then $4 \times 25 = 100$ and $20 \div 4 = 5$. Then $100 - 5 = 95$.
10	B 15	Indices first: $27 - 9 - 3$. Then left to right: $27 - 9 = 18$, and $18 - 3 = 15$.
11	E $(2 + 4)^2$	$(2 + 4)^2 = 6^2 = 36$. The others make 18, 20, 32 and 64.
12	D 12	Innermost brackets: $5 + 1 = 6$. Then $2 \times 6 = 12$. Then $144 \div 12 = 12$.
13	A $\times$ and $+$	$8 \times 2 + 3 = 16 + 3 = 19$. The others make 14, 48, 13 and 2.
14	C 48	Brackets: $3 + 4 = 7$. Indices: $7^2 = 49$. Multiply: $2 \times 49 = 98$. Then $98 - 50 = 48$.
15	B 32	Brackets: 8 and 4. Indices: $8^2 = 64$. Then left to right: $64 \div 4 = 16$, and $16 \times 2 = 32$.
16	E She added before subtracting	Lily worked out $6 + 4 = 10$ first, then $20 - 10 = 10$. Addition and subtraction are equal partners, so go left to right: $20 - 6 = 14$, then $14 + 4 = 18$.
17	D 9	Brackets: $2 + 3 = 5$. Indices: $5^3 = 125$ and $4^2 = 16$. Then $125 \div 5 = 25$. Then $25 - 16 = 9$.
18	B 70	$2 \times (3 + 4) \times 5 = 2 \times 7 \times 5 = 70$. Other places give 50, 46 or 26.
19	A 4	Innermost brackets: $6 + 2 = 8$. Then $8 \times 3 = 24$, and $24 - 4 = 20$. Then $20 \div 5 = 4$.
20	C 21	Indices first: $49 - 4 \times 9 + 8$. Then multiply: $4 \times 9 = 36$. Then left to right: $49 - 36 = 13$, and $13 + 8 = 21$.
21	62	Multiply first: $7 \times 8 = 56$. Then $6 + 56 = 62$.
22	39	Indices first: $9^2 = 81$. Then $6 \times 7 = 42$. Then $81 - 42 = 39$.
23	40	Inside the brackets, multiply first: $3 \times 5 = 15$, then $25 - 15 = 10$. Then $4 \times 10 = 40$.

Q	Answer	How to get it
24	72	Brackets: $7 - 4 = 3$. Indices: $2^3 = 8$ and $3^2 = 9$. Then $8 \times 9 = 72$.
25	8	Inside the brackets: $3^2 = 9$, then $4 \times 9 = 36$, then $100 - 36 = 64$. Then $64 \div 8 = 8$.
26	108	Innermost brackets: $12 - 4 = 8$. Then $8 \div 2 = 4$, and $2 + 4 = 6$. Indices: $6^2 = 36$. Then $3 \times 36 = 108$.
27	4	$24 - 4 \times (3 + 2) = 24 - 4 \times 5 = 24 - 20 = 4$. Other places give 62, 14 or 10.

Score: out of 27