

11+ Maths Practice Paper

Year 6 · Advanced

Lesson 1.5: Factors, multiples and divisibility rules

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

Which number is divisible by 4?

A 7,314

B 7,318

C 7,316

D 7,322

E 7,310

Answer: C The last two digits, 16, are in the 4 times table.

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

Now turn over and start Part 1.

Part 1: Multiple choice

1

Which number is divisible by 8?

- A 5,124 B 5,128 C 5,132 D 5,140 E 5,126

2

How many factors does 60 have?

- A 11 B 10 C 8 D 12 E 6

3

Which number is prime?

- A 97 B 91 C 87 D 93 E 99

4

The number 4?2 is divisible by 9.

What is the missing digit?

- A 4 B 2 C 6 D 9 E 3

5

How many prime numbers are there between 80 and 100?

- A 2 B 4 C 3 D 5 E 1

6

Which of these is NOT a factor of 72?

- A 16 B 18 C 24 D 8 E 9

7

Which number is divisible by 6 but NOT by 9?

- A 116 B 126 C 108 D 111 E 114

8

A number is divisible by 9.

Which other number must it be divisible by?

- A 2 B 6 C 3 D 18 E 27

9

Which of these is a multiple of 8 between 90 and 100?

- A 92 B 96 C 94 D 98 E 90

10

I am a prime number between 50 and 60. My digits add up to 8.

What number am I?

- A 57 B 59 C 51 D 53 E 55

11

Which list contains only prime numbers?

- A 61, 63, 67 B 41, 49, 53 C 39, 41, 43 D 51, 53, 59 E 41, 43, 47

12

The number 3,7?6 is divisible by 4.

Which of these could the missing digit be?

- A 2 B 3 C 4 D 6 E 8

13

How many numbers from 1 to 100 are multiples of 7?

- A 7 B 15 C 13 D 14 E 10

14

Which number has the most factors?

- A 36 B 37 C 35 D 38 E 39

15

Which number is divisible by 2, 3, 4, 5 and 6?

- A 90 B 150 C 120 D 80 E 100

16

Two prime numbers add up to 15.

What are they?

- A 7 and 8 B 5 and 10 C 2 and 13 D 3 and 12 E 4 and 11

17

Which of these is a prime number?

A 69

B 51

C 57

D 63

E 61

18

6? is a 2-digit number. It is divisible by 3 and by 4.

What is the missing digit?

A 0

B 4

C 8

D 6

E 3

19

How many factors does 100 have?

A 6

B 8

C 10

D 9

E 5

20

Ali thinks of a number. It is a factor of 48 and a multiple of 6. It is bigger than 12 but smaller than 40.

What is the number?

A 18

B 24

C 12

D 36

E 48

Part 2: Write your answer

21

How many factors does 48 have?

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

22

What is the largest prime number less than 100?

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

23

How many prime numbers are there between 1 and 50?

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

24

The number 2,5?4 is divisible by 9.

What is the missing digit?

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

25

What is the smallest number that has exactly 6 factors?

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

26

What is the largest 2-digit number that is divisible by 8?

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

27

Add together all the prime numbers between 10 and 20.

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	B 5,128	The last three digits, 128, are in the 8 times table: $8 \times 16 = 128$.
2	D 12	1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 and 60.
3	A 97	$91 = 7 \times 13$, $87 = 3 \times 29$, $93 = 3 \times 31$, $99 = 9 \times 11$. 97 has no factors except 1 and 97.
4	E 3	$4 + 3 + 2 = 9$, which is in the 9 times table.
5	C 3	They are 83, 89 and 97.
6	A 16	$72 \div 16 = 4$ remainder 8.
7	E 114	114 is even and its digits add up to 6, so it is divisible by 6. 6 is not in the 9 times table.
8	C 3	$9 = 3 \times 3$, so anything divisible by 9 is divisible by 3.
9	B 96	$8 \times 12 = 96$.
10	D 53	The primes between 50 and 60 are 53 and 59. $5 + 3 = 8$.
11	E 41, 43, 47	$49 = 7 \times 7$, $39 = 3 \times 13$, $51 = 3 \times 17$ and $63 = 9 \times 7$.
12	B 3	The last two digits must be in the 4 times table. 36 is; 26, 46, 66 and 86 are not.
13	D 14	$7 \times 14 = 98$ and $7 \times 15 = 105$, so there are 14.
14	A 36	36 has 9 factors. 37 has 2, and 35, 38 and 39 have 4 each.
15	C 120	120 is even, its digits add up to 3, its last two digits (20) are in the 4 times table, and it ends in 0.
16	C 2 and 13	15 is odd, so one of the primes must be 2 (the only even prime). $15 - 2 = 13$, which is prime.
17	E 61	$51 = 3 \times 17$, $57 = 3 \times 19$, $63 = 7 \times 9$, $69 = 3 \times 23$. 61 is prime.
18	A 0	60 is divisible by 3 ($6 + 0 = 6$) and by 4 (4×15). 64 and 68 fail the rule for 3.
19	D 9	1, 2, 4, 5, 10, 20, 25, 50 and 100.
20	B 24	The factors of 48 that are multiples of 6 are 6, 12, 24 and 48. Only 24 is between 12 and 40.
21	10	1, 2, 3, 4, 6, 8, 12, 16, 24 and 48.
22	97	$99 = 9 \times 11$ and 98 is even, so 97.
23	15	2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47.
24	7	$2 + 5 + 7 + 4 = 18$, which is in the 9 times table.
25	12	12 has 1, 2, 3, 4, 6 and 12. Every number below 12 has 4 factors or fewer.

Q	Answer	How to get it
26	96	$8 \times 12 = 96$, and $8 \times 13 = 104$ has 3 digits.
27	60	$11 + 13 + 17 + 19 = 60$.

Score: out of 27