

11+ Maths Practice Paper

Year 4 · Foundation

Lesson 5.2: Spatial and non-verbal sequences

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**.

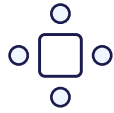
The answer sheet is after the questions. The answers, with a short explanation of each, are at the back for a parent to mark with.

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).

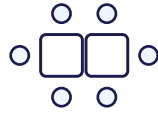
Example

Square tables are pushed together in a row. Chairs go all the way round.

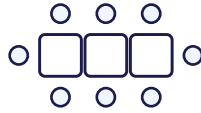
How many chairs are there round 4 tables?



Pattern 1



Pattern 2



Pattern 3

A 12

B 16

C 8

D 9

E 10

Answer: E Each new table brings 2 more chairs: 4, 6, 8, so 4 tables have $8 + 2 = 10$ chairs.

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

Now turn over and start Part 1.

Part 1: Multiple choice

1

Here are some patterns made of matchsticks.

How many matchsticks will Pattern 4 have?



Pattern 1



Pattern 2



Pattern 3

A 12

B 14

C 13

D 11

E 16

2

Here are some patterns made of matchsticks.

How many more matchsticks does each new pattern need?



Pattern 1



Pattern 2



Pattern 3

A 5

B 3

C 1

D 2

E 4

3

Here is a pattern of shapes.

Which shape comes next?



A



B



C



D



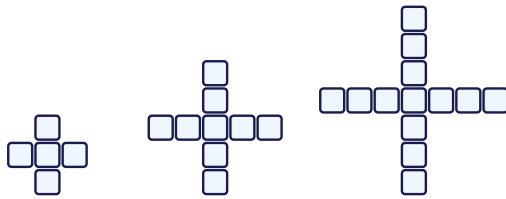
E



4

Here are some patterns made of tiles.

How many tiles will Pattern 4 have?



Pattern 1

Pattern 2

Pattern 3

A 20

B 17

C 21

D 13

E 16

5

Here is a pattern of dots.

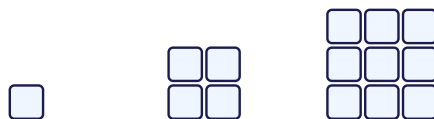
Which picture comes next?



6

Here are some squares made of tiles.

How many tiles will Pattern 4 have?



Pattern 1

Pattern 2

Pattern 3

A 13

B 8

C 15

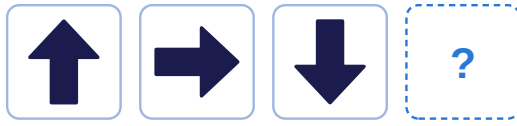
D 12

E 16

7

The arrow turns a quarter turn clockwise each time.

Which arrow comes next?



8

Here are some patterns made of matchsticks.

How many matchsticks will Pattern 6 have?



Pattern 1



Pattern 2



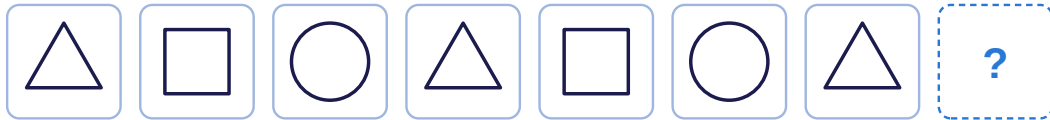
Pattern 3

A 18 B 19 C 16 D 22 E 24

9

Here is a pattern of shapes.

Which shape comes next?

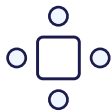


10

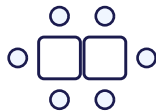
Square tables are pushed together in a row. Chairs go all the way round.

14 people need a chair each.

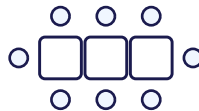
How many tables are needed?



Pattern 1



Pattern 2



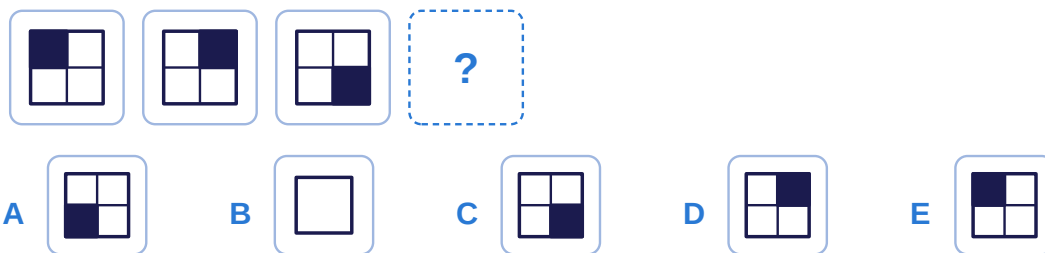
Pattern 3

A 14 B 7 C 6 D 12 E 5

11

The shaded part moves round the square.

Which picture comes next?



12

Here are some triangles made of dots.

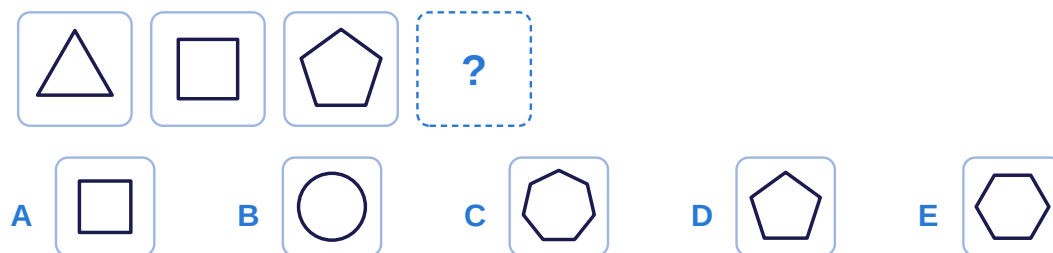
How many dots will Pattern 4 have?



13

Each shape has one more side than the one before.

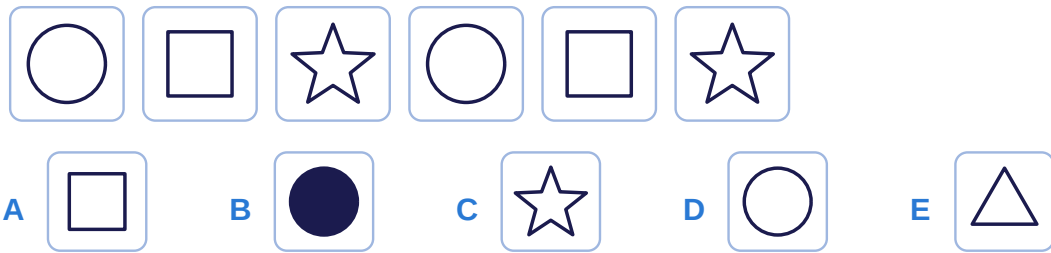
Which shape comes next?



14

This pattern keeps repeating.

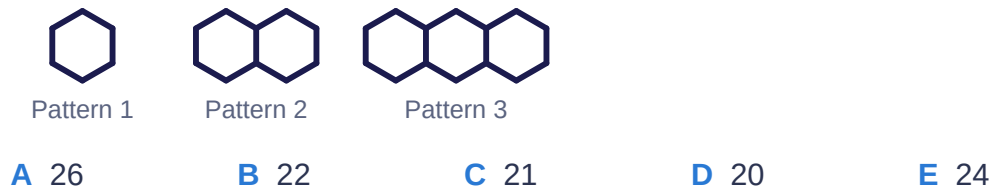
What is the 10th shape?



15

Here are some patterns made of matchsticks.

How many matchsticks will Pattern 4 have?



Part 2: Write your answer

16

Here are some patterns made of matchsticks.

How many matchsticks will Pattern 10 have?

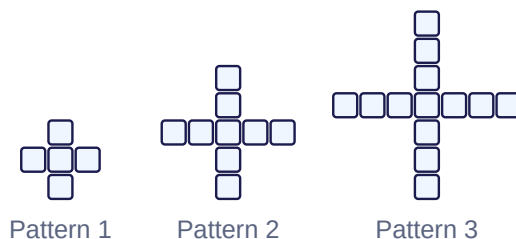


Write your answer in the boxes on the answer sheet, one digit in each box.

17

Here are some patterns made of tiles.

How many tiles will Pattern 6 have?

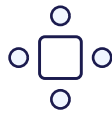


Write your answer in the boxes on the answer sheet, one digit in each box.

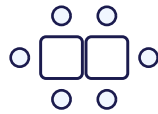
18

Square tables are pushed together in a row. Chairs go all the way round.

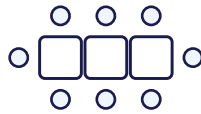
How many chairs are there round 12 tables?



Pattern 1



Pattern 2



Pattern 3

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

19

This pattern keeps repeating.

How many circles are there in the first 12 shapes?



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

20

Here are some squares made of tiles.

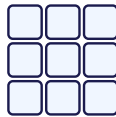
How many tiles will Pattern 6 have?



Pattern 1



Pattern 2



Pattern 3

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

Answer sheet

11+ Maths Practice Paper · Year 4 · Lesson 5.2: Spatial and non-verbal sequences

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		
17		
18		

19		
20		

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 13	Each new pattern adds 3 matchsticks: 4, 7, 10, so Pattern 4 has $10 + 3 = 13$.
2	D 2	The patterns use 3, 5 and 7 matchsticks. Each new pattern needs 2 more.
3	A a star	The circle and the star take turns, so after a circle comes a star.
4	B 17	Each new pattern adds 4 tiles, one at the end of each arm: 5, 9, 13, then $13 + 4 = 17$.
5	A 5 dots	There is one more dot each time: 1, 2, 3, 4, then 5.
6	E 16	Pattern 4 is a square 4 tiles wide and 4 tiles tall: $4 \times 4 = 16$. (The new parts go 3, 5, 7: $9 + 7 = 16$.)
7	C an arrow pointing left	Up, right, down: each is a quarter turn clockwise. A quarter turn clockwise from down points left.
8	B 19	Keep adding 3: 4, 7, 10, 13, 16, 19. Pattern 6 has 19 matchsticks.
9	D a square	The block triangle, square, circle repeats. After a triangle comes a square.
10	C 6	Count on 2 chairs for each table: 4, 6, 8, 10, 12, 14. That is 6 tables.
11	A a square with the bottom left quarter shaded	The shaded quarter moves clockwise: top left, top right, bottom right, then bottom left.
12	B 10	Each new row is one dot longer: 1, then $+ 2 = 3$, $+ 3 = 6$, $+ 4 = 10$.
13	E a hexagon	3 sides, 4 sides, 5 sides: next is a shape with 6 sides, a hexagon.
14	D a circle	The block circle, square, star is 3 shapes long. $10 \div 3 = 3$ remainder 1, so the 10th shape is the 1st shape of the block: a circle.
15	C 21	Each new hexagon needs 5 more matchsticks: 6, 11, 16, then $16 + 5 = 21$.
16	31	There is 1 matchstick on the left, then 3 for each square: $3 \times 10 = 30$, and $30 + 1 = 31$.
17	25	The middle tile, then 4 more for each pattern: $4 \times 6 = 24$, and $24 + 1 = 25$.
18	26	Each table has a chair on each side (2), and there is 1 chair at each end: $2 \times 12 = 24$, and $24 + 2 = 26$.
19	8	The block star, circle, circle has 2 circles. $12 \div 3 = 4$ blocks, and $4 \times 2 = 8$.
20	36	Pattern 6 is 6 rows of 6 tiles: $6 \times 6 = 36$.

Score: out of 20