

Primary 3 · Mathematics · Maths General Ability I

Figure patterns

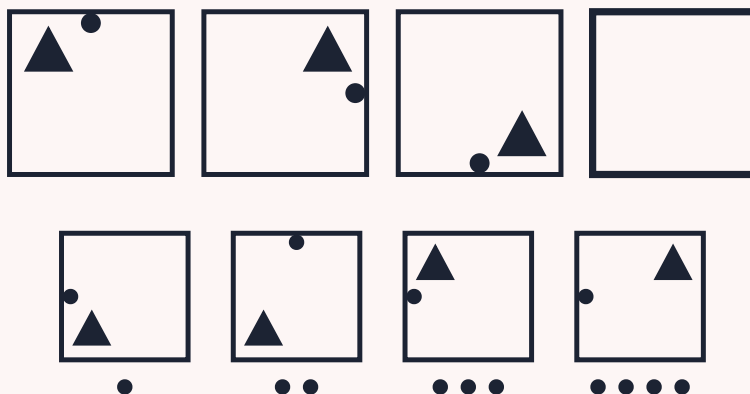
Time **30 min** Marks **11** Questions **9**

Answers are printed in red after each question, with the working where it matters. Marks in brackets show how a marker would split them.

Section A

Questions 1 to 7 carry 1 mark each.

- 1 The black triangle moves one corner clockwise each step and the dot moves one side clockwise. Which figure comes next? [1]
Write the number of the correct figure.

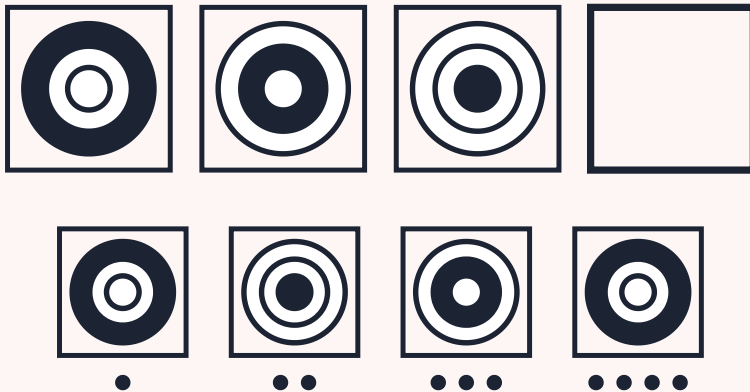


1. The triangle visits the top-left corner, then the top-right, then the bottom-right, so next it sits bottom-left.
2. The dot moves from the top side to the right side to the bottom side, so next it sits on the left side.
3. Both happen together in option (1).

ANSWER **1**

- 2 The black ring moves one ring inward each step, then starts again on the outside. Which figure comes next?
Write the number of the correct figure.

[1]

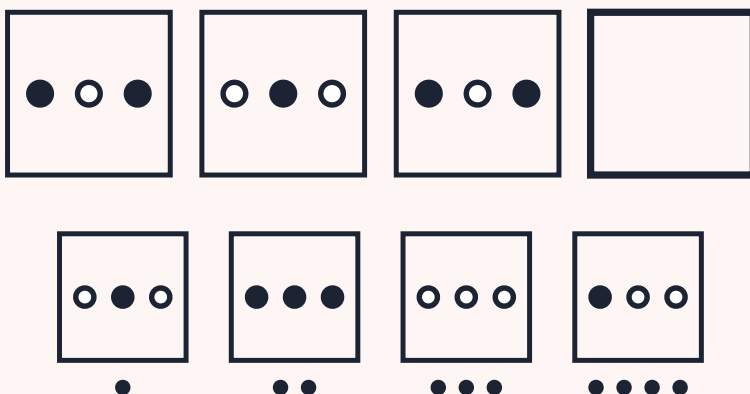


1. The black ring is the outer one, then the middle one, then the inner one.
2. The next step sends it back to the outer ring, which is option (2).

ANSWER 2

- 3 The colours of the three beads swap at every step. Which figure comes next?
Write the number of the correct figure.

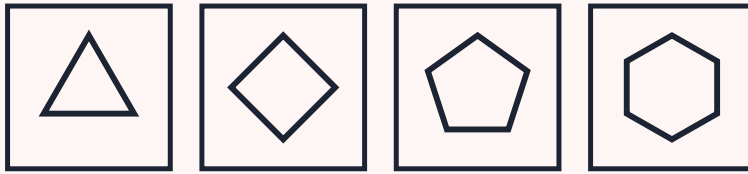
[1]



1. Black, white, black becomes white, black, white, then black, white, black again.
2. The next figure is white, black, white, which is option (1).

ANSWER 1

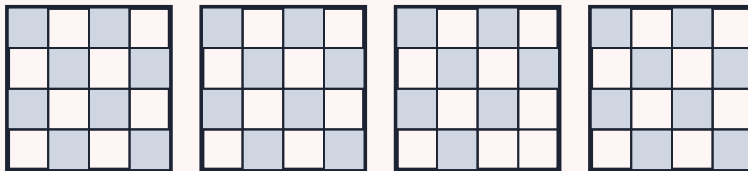
- 4 Three of these figures follow one rule and one does not. Which is the odd one out? [1]
Count them 1 to 4 from left to right.



1. Figures 1, 2 and 4 have a number of sides that is not 5.
2. Only figure 3 has five sides, so it is the odd one out.

ANSWER 3

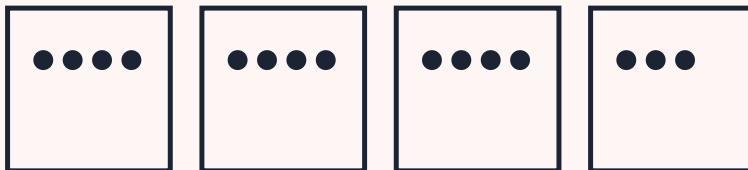
- 5 Three of these grids are shaded in the same way and one is not. Which is the odd one out? Count them 1 to 4 from left to right. [1]



1. Figures 1, 2 and 4 shade every other small square, so exactly half the grid is shaded.
2. Figure 3 has one extra square shaded, so it is the odd one out.

ANSWER 3

- 6 Three of these boxes hold the same number of dots and one does not. Which is the odd one out? Count them 1 to 4 from left to right. [1]



1. Boxes 1, 2 and 3 each hold 4 dots.
2. Box 4 holds 3 dots, so it is the odd one out.

ANSWER 4

7 Three of these numbers follow one rule and one does not. Which is the odd one out? [1]

(1) 2 3 6

(2) 2 4 8

(3) 3 3 6

(4) 4 4 2

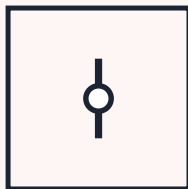
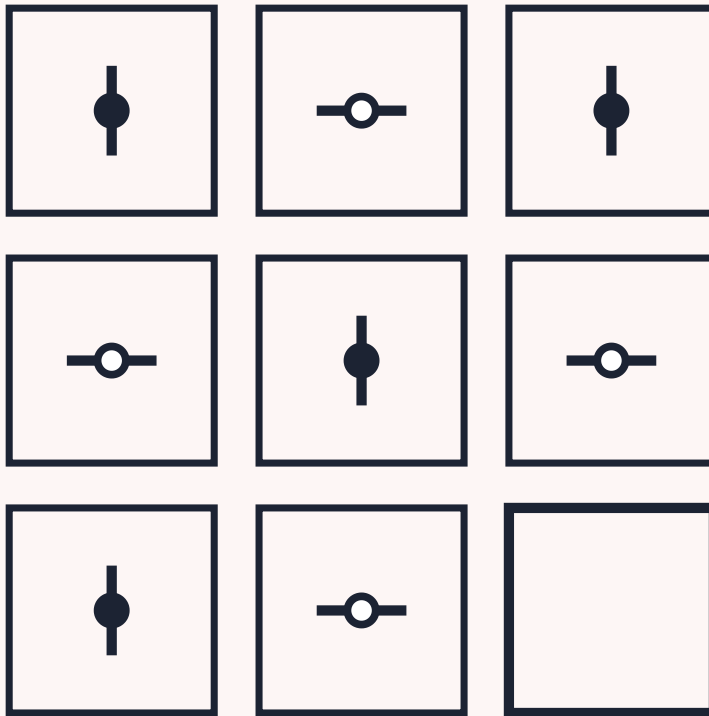
1. The last digit should equal the product of the first two.
2. $2 \times 3 = 6$, $2 \times 4 = 8$ and $3 \times 3 = 6$, all matching the last digit.
3. $4 \times 4 = 16$, which is not 2, so (4) is the odd one out.

ANSWER **4**

Section B

Questions 8 and 9 carry 2 marks each.

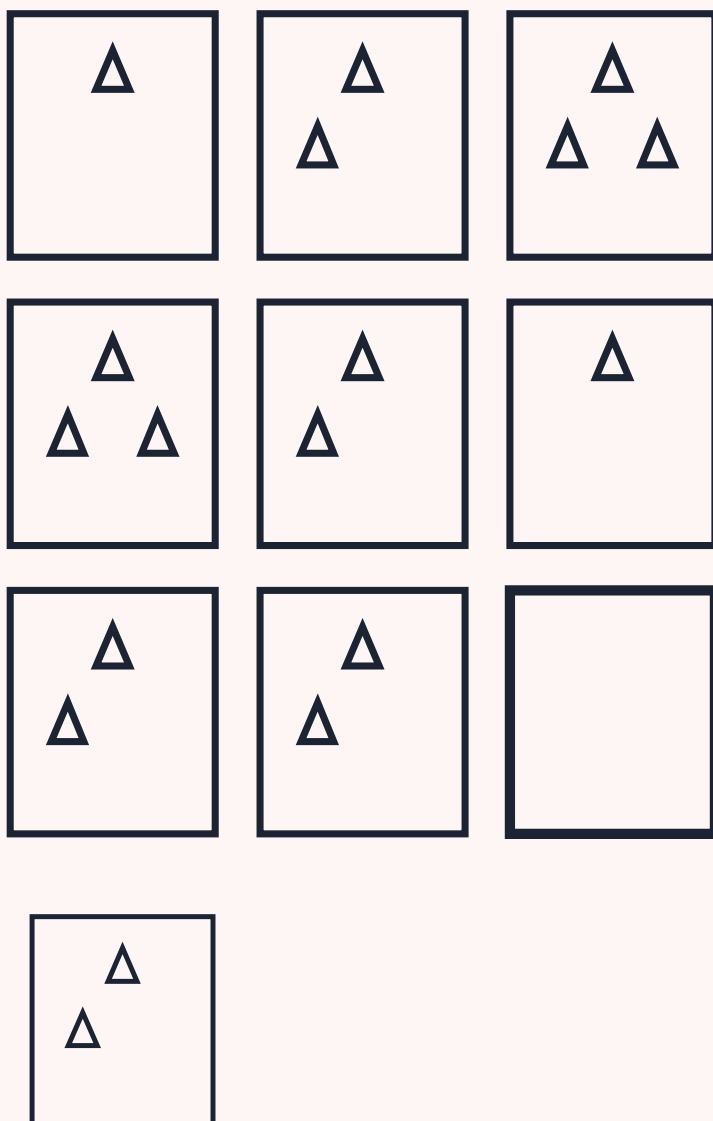
- 8 The arrow turns one quarter clockwise along each row and down each column, and the centre dot alternates between filled and empty. Draw the missing figure. [2]



1. The arrow turns a quarter turn at every box: up, right, down, left, and so on.
2. The bottom-right box is four steps on, so the arrow points down.
3. The dot alternates filled, empty. That box is an even step, so the dot is empty.

ANSWER An arrow pointing down with an empty centre dot.

- 9 The number of stars in every column adds up to the same total. Draw the missing square. [2]



1. The first column has 1, 3 and 2 stars: 6 in all. The second has 2, 2 and 2: also 6.
2. The third column has 3 and 1 so far, so the last square needs 2 stars.

ANSWER A square containing 2 stars.

Marking notes

- Section A: 1 mark for the number. Section B: 2 marks for the correct figure, 1 mark if the rule is right but the drawing is incomplete.

END OF PAPER