4.3 Matrices: 30-minute Pack

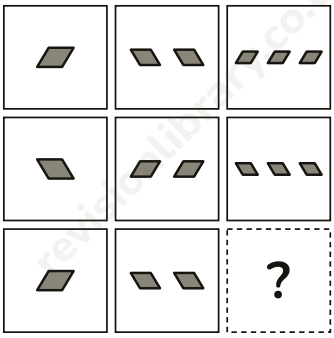
GL ASSESSMENT EP.N3 · Calculators not allowed · about 30 minutes

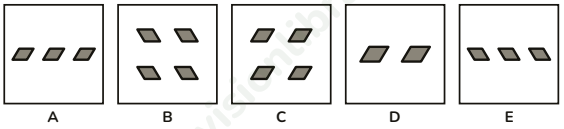
Total Marks

Name: _____ Date: ____ / ____ / _____

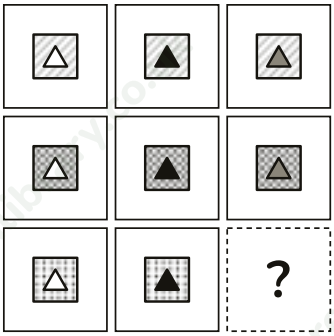
Answer ALL questions. Show all your working.

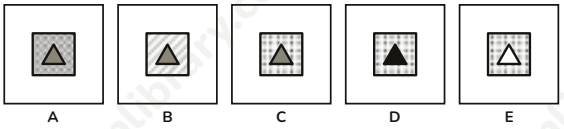
1 Study the 3x3 matrix of figures below. The bottom-right cell is missing, marked '?'. Which option completes the matrix?



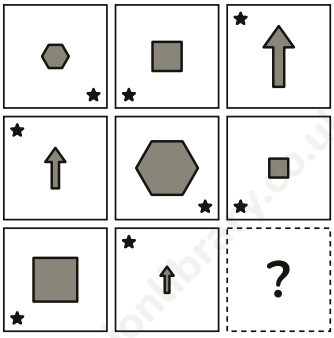


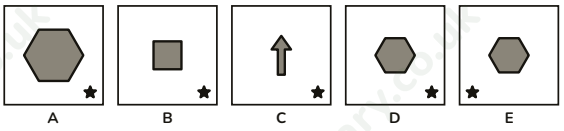
2



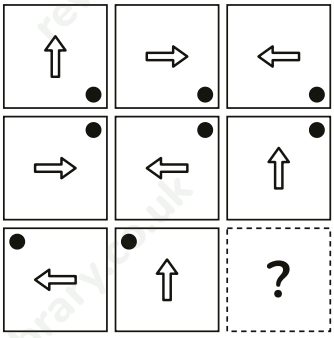


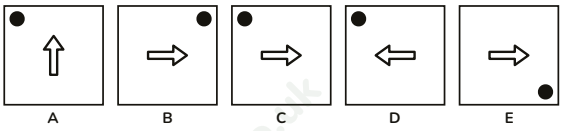
3





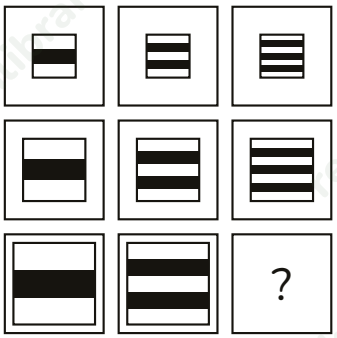
4

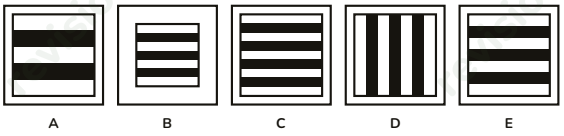




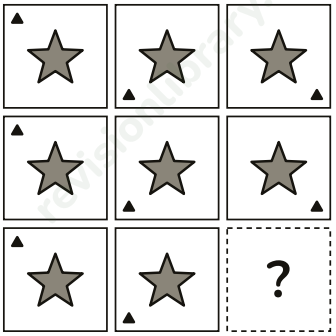
© Revision Library | revisionlibrary.co.uk

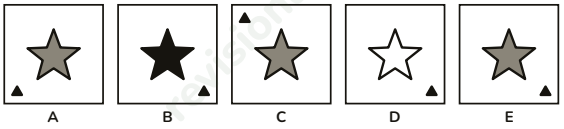
5 Study the 3x3 matrix of figures below. One rule links the figures across each row; a second rule links the figures down each column. The bottom-right cell is missing, marked '?'. Identify which option completes the matrix.



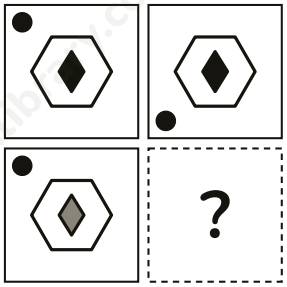


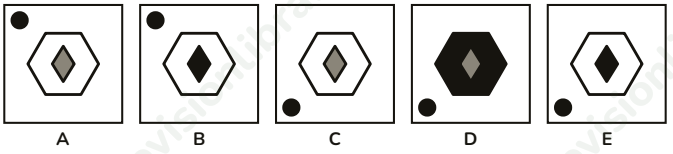
6 Study the 3x3 matrix of figures below. The bottom-right cell is missing, marked '?'. Which option completes the matrix?



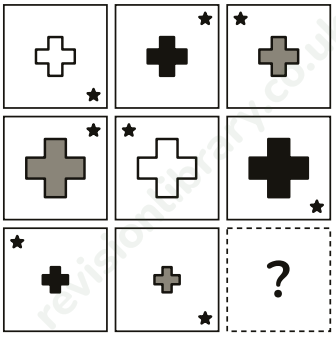


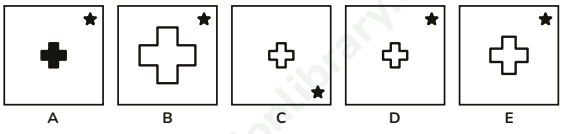
7 Study the 2x2 matrix of figures below. The bottom-right cell is missing, marked '?'. Which option completes the matrix?





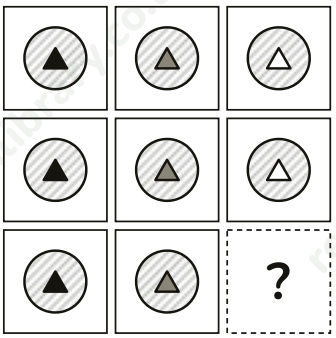
8 Study the 3x3 matrix of figures below. The bottom-right cell is missing, marked '?'. Which option completes the matrix?

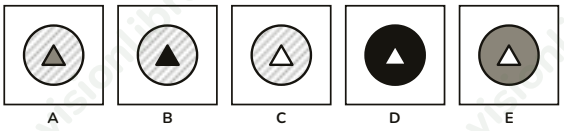




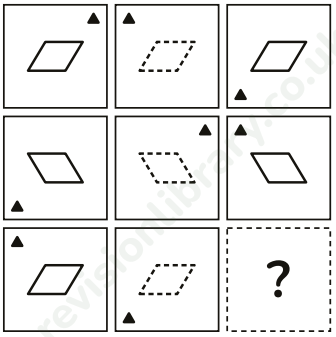
© Revision Library | revisionlibrary.co.uk

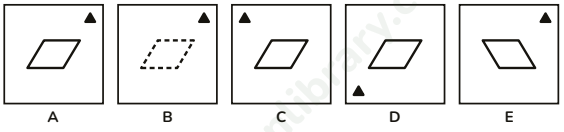
9



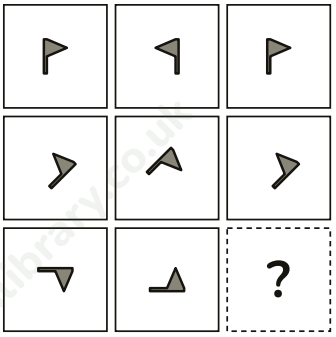


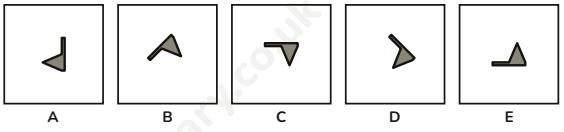
10



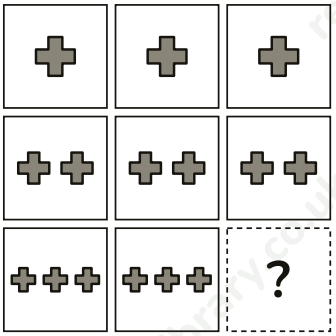


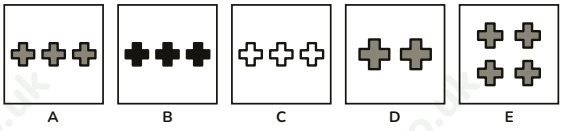
11



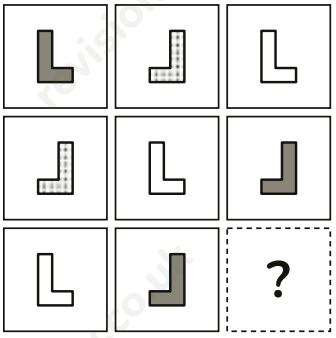


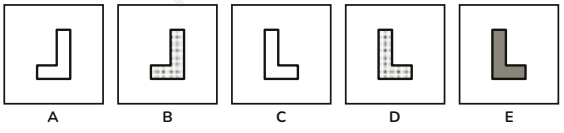
12





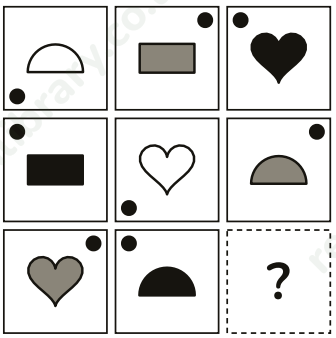
13

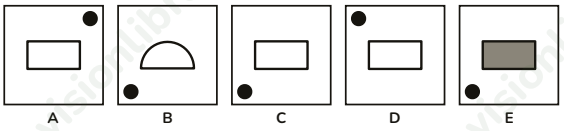




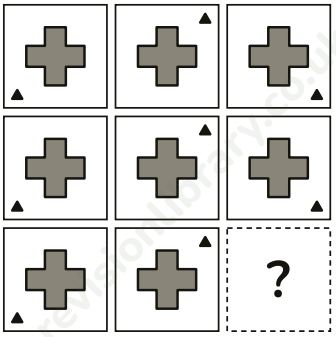
© Revision Library | revisionlibrary.co.uk

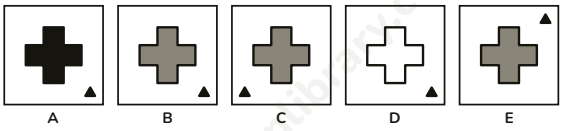
14



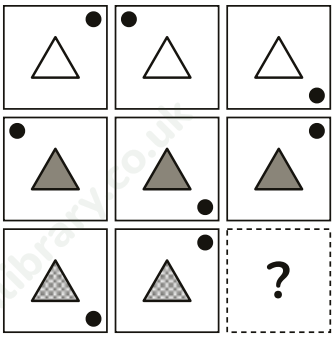


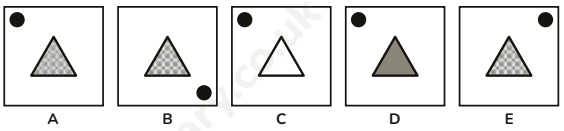
15



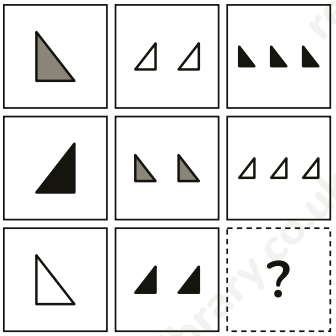


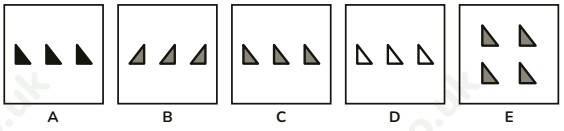
16



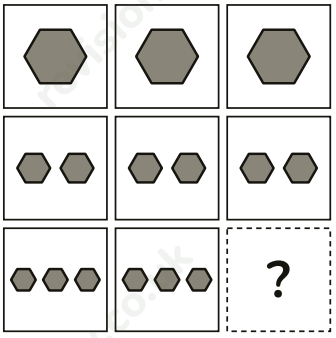


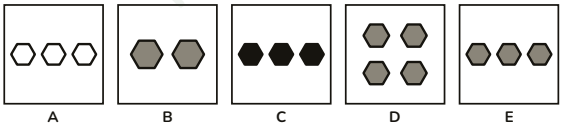
17





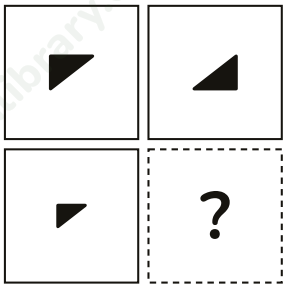
18

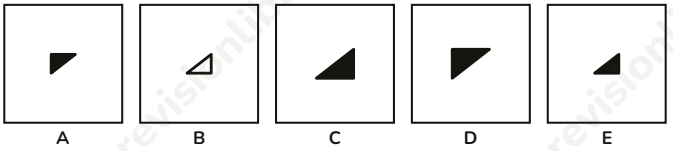




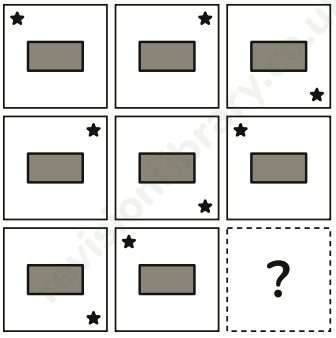
© Revision Library | revisionlibrary.co.uk

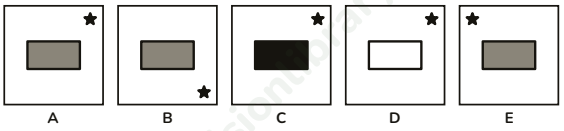
19 Study the 2x2 matrix of figures below. The bottom-right cell is missing, marked '?'. Which option completes the matrix?



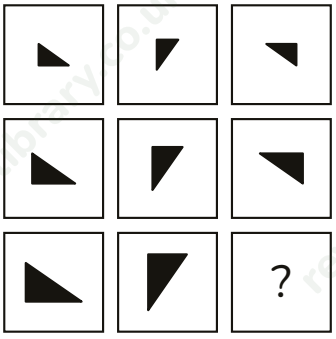


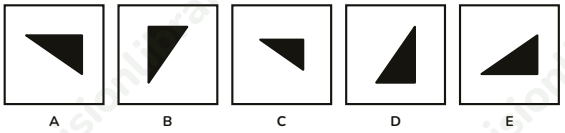
20 Study the 3x3 matrix of figures below. The bottom-right cell is missing, marked '?'. Which option completes the matrix?





21 Study the 3x3 matrix of figures below. One rule links the figures across each row; a second rule links the figures down each column. The bottom-right cell is missing, marked '?'. Identify which option completes the matrix.





© Revision Library | revisionlibrary.co.uk

Mark scheme · 4.3 Matrices: 30-minute Pack

Question 1

selects option A: the mirror image alternates in a checkerboard pattern; the number of shapes is the same down each column and changes from column to column, which gives Three small mid-grey parallelograms side by side in a row (upright, the parallelogram has its long sides horizontal, slanting up to the right) (cao) **B1**

Answer: A) Three small mid-grey parallelograms side by side in a row (upright, the parallelogram has its long sides horizontal, slanting up to the right)

Question 2

selects option C: the shading is the same along each row and changes from row to row; the shading of the inner shape is the same down each column and changes from column to column, which gives A large dotted square, with a small mid-grey triangle with one point facing up centred inside it (cao) **B1**

Answer: C) A large dotted square, with a small mid-grey triangle with one point facing up centred inside it

Question 3

selects option D: the shape uses each value once in every row and every column; the size uses each value once in every row and every column; the position of the small shape uses each value once in every row and every column, which gives A medium mid-grey hexagon and a small solid black star with one point facing up in the bottom-right (upright, the hexagon has its flat top and bottom) (cao) **B1**

Answer: D) A medium mid-grey hexagon and a small solid black star with one point facing up in the bottom-right (upright, the hexagon has its flat top and bottom)

Question 4

selects option C: the orientation uses each value once in every row and every column; the position of the small shape is the same along each row and changes from row to row, which gives A medium unshaded (white) arrow pointing right and a small solid black circle in the top-left (cao) **B1**

Answer: C) A medium unshaded (white) arrow pointing right and a small solid black circle in the top-left

Question 5

Selects E: applies the row rule (stripe count 1,2,3 across columns) and the column rule (size small, medium, large down rows). **B1**

Answer: E

Question 6

selects option E: the position of the small shape is the same down each column and changes from column to column, which gives A large mid-grey star with one point facing up and a small solid black triangle with one point facing up in the bottom-right (cao) **B1**

Answer: E) A large mid-grey star with one point facing up and a small solid black triangle with one point facing up in the bottom-right

Question 7

selects option C: the shading of the inner shape is the same along each row and changes from row to row; the position of the small shape is the same down each column and changes from column to column, which gives A large unshaded (white) hexagon, with a small mid-grey diamond centred inside it and a small solid black circle in the bottom-left (upright, the hexagon has its flat top and bottom) (cao) **B1**

Answer: C) A large unshaded (white) hexagon, with a small mid-grey diamond centred inside it and a small solid black circle in the bottom-left (upright, the hexagon has its flat top and bottom)

Question 8

selects option D: the position of the small shape uses each value once in every row and every column; the size is the same along each row and changes from row to row; the shading uses each value once in every row and every column, which gives A small unshaded (white) cross and a small solid black star with one point facing up in the top-right (cao) **B1**

Answer: D) A small unshaded (white) cross and a small solid black star with one point facing up in the top-right

Question 9

selects option C: the shading of the inner shape is the same down each column and changes from column to column, which gives A large diagonally hatched circle, with a small unshaded (white) triangle with one point facing up centred inside it (cao) **B1**

Answer: C) A large diagonally hatched circle, with a small unshaded (white) triangle with one point facing up centred inside it

Question 10

selects option A: the mirror image is the same along each row and changes from row to row; the outline style is the same down each column and changes from column to column; the position of the small shape uses each value once in every row and every column, which gives A large unshaded (white) parallelogram and a small solid black triangle with one point facing up in the top-right (upright, the parallelogram has its long sides horizontal, slanting up to the right) (cao) **B1**

Answer: A) A large unshaded (white) parallelogram and a small solid black triangle with one point facing up in the top-right (upright, the parallelogram has its long sides horizontal, slanting up to the right)

Question 11

selects option C: the orientation is the same along each row and changes from row to row; the mirror image alternates in a checkerboard pattern, which gives A medium mid-grey flag (turned 90 degrees clockwise) (upright, the flag has its pole on the left, pennant pointing right from the top) (cao) **B1**

Answer: C) A medium mid-grey flag (turned 90 degrees clockwise) (upright, the flag has its pole on the left, pennant pointing right from the top)

© Revision Library | revisionlibrary.co.uk

Question 12

selects option A: the number of shapes is the same along each row and changes from row to row, which gives Three small mid-grey crosses side by side in a row (cao) **B1**

Answer: A) Three small mid-grey crosses side by side in a row

Question 13

selects option D: the shading uses each value once in every row and every column; the mirror image alternates in a checkerboard pattern, which gives A large dotted L-shape (upright, the L-shape has its tall arm on the left, foot pointing right along the bottom) (cao) **B1**

Answer: D) A large dotted L-shape (upright, the L-shape has its tall arm on the left, foot pointing right along the bottom)

Question 14

selects option C: the shading uses each value once in every row and every column; the position of the small shape uses each value once in every row and every column; the shape uses each value once in every row and every column, which gives A large unshaded (white) rectangle and a small solid black circle in the bottom-left (upright, the rectangle has its long sides horizontal) (cao) **B1**

Answer: C) A large unshaded (white) rectangle and a small solid black circle in the bottom-left (upright, the rectangle has its long sides horizontal)

Question 15

selects option B: the position of the small shape is the same down each column and changes from column to column, which gives A large mid-grey cross and a small solid black triangle with one point facing up in the bottom-right (cao) **B1**

Answer: B) A large mid-grey cross and a small solid black triangle with one point facing up in the bottom-right

Question 16

selects option A: the position of the small shape uses each value once in every row and every column; the shading is the same along each row and changes from row to row, which gives A large cross-hatched triangle with one point facing up and a small solid black circle in the top-left (cao) **B1**

Answer: A) A large cross-hatched triangle with one point facing up and a small solid black circle in the top-left

Question 17

selects option C: the number of shapes is the same down each column and changes from column to column; the shading uses each value once in every row and every column; the mirror image alternates in a checkerboard pattern, which gives Three small mid-grey right-angled triangles side by side in a row (upright, the right-angled triangle has its right angle at the bottom left, longer side along the bottom) (cao) **B1**

Answer: C) Three small mid-grey right-angled triangles side by side in a row (upright, the right-angled triangle has its right angle at the bottom left, longer side along the bottom)

Question 18

selects option E: the number of shapes is the same along each row and changes from row to row, which gives Three small mid-grey hexagons side by side in a row (upright, the hexagon has its flat top and bottom) (cao) **B1**

Answer: E) Three small mid-grey hexagons side by side in a row (upright, the hexagon has its flat top and bottom)

Question 19

selects option E: the orientation is the same down each column and changes from column to column; the size is the same along each row and changes from row to row, which gives A small solid black right-angled triangle (turned 270 degrees clockwise) (upright, the right-angled triangle has its right angle at the bottom left, longer side along the bottom) (cao) **B1**

Answer: E) A small solid black right-angled triangle (turned 270 degrees clockwise) (upright, the right-angled triangle has its right angle at the bottom left, longer side along the bottom)

Question 20

selects option A: the position of the small shape uses each value once in every row and every column, which gives A large mid-grey rectangle and a small solid black star with one point facing up in the top-right (upright, the rectangle has its long sides horizontal) (cao) **B1**

Answer: A) A large mid-grey rectangle and a small solid black star with one point facing up in the top-right (upright, the rectangle has its long sides horizontal)

Question 21

Selects A: applies the row rotation rule (+90 degrees clockwise across columns) and the column size rule (small, medium, large down rows). **B1**

Answer: A

© Revision Library | revisionlibrary.co.uk