4.5 Rotation: Test Pack

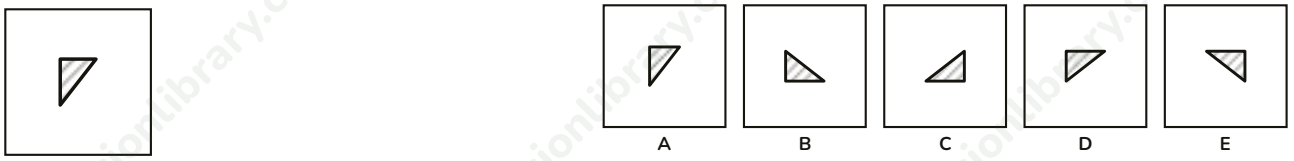
GL ASSESSMENT GL-EP.N7 · Calculators not allowed · about 60 minutes

Total Marks

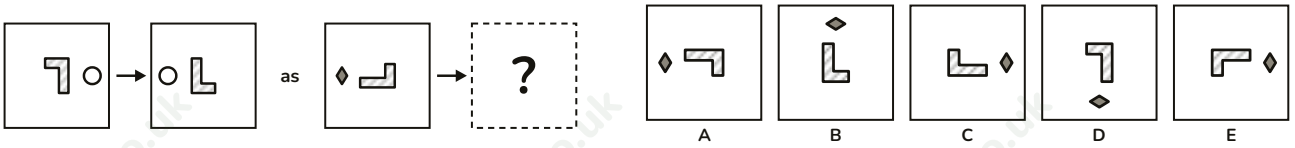
Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

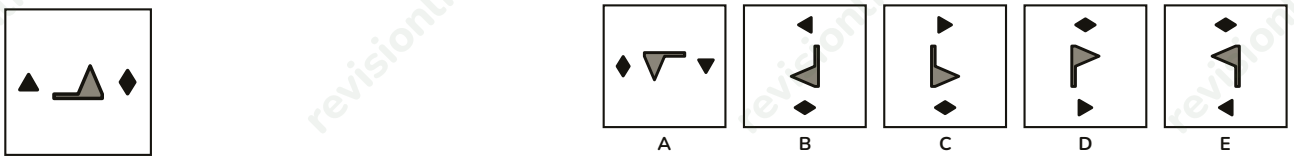
1 The shape in the stem is rotated 270 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



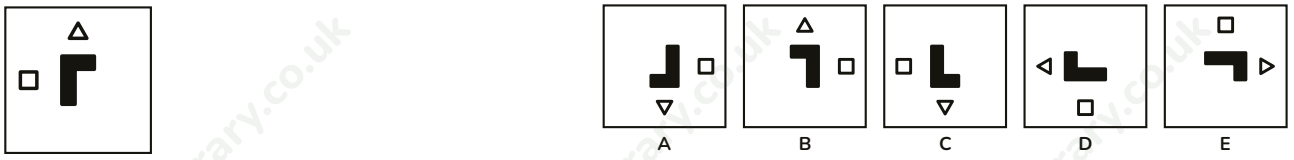
2 Shape 1 is rotated to give Shape 2 (shown as a pair below). Apply the same rotation to Shape 3. Which option, A to E, shows the result?



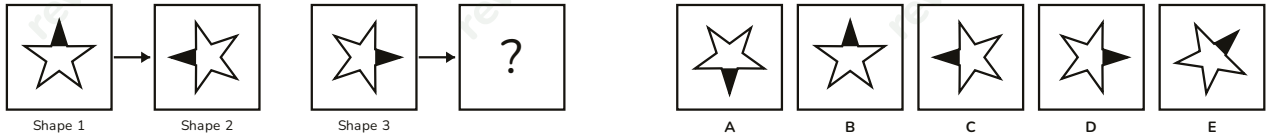
3 The shape in the stem is rotated 270 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



4 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?

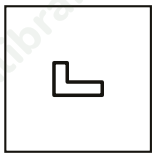


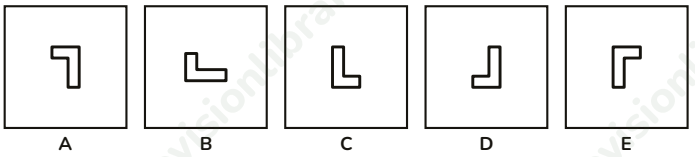
5 Shape 1 is rotated 90 degrees anticlockwise to give Shape 2 (shown as a pair below). Apply the same rotation to Shape 3. Which option, A to E, shows the result?



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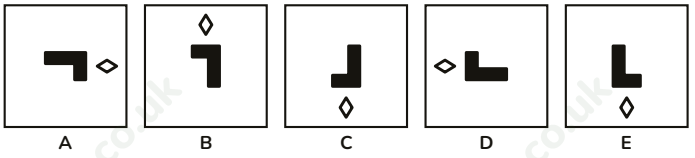
6 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



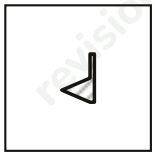


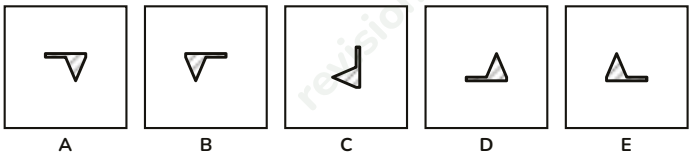
7 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?





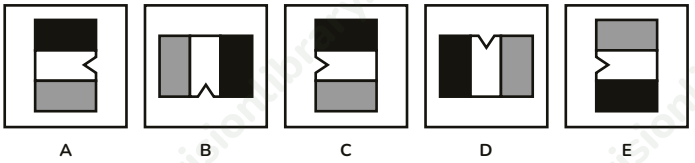
8 The shape in the stem is rotated 270 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?



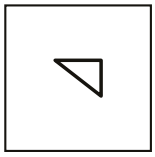


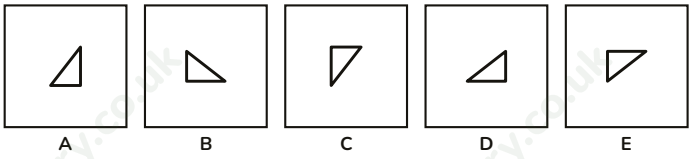
9 Four of the five options below show the same flag rotated by a different multiple of 90 degrees. One option does not belong - it has been reflected (mirror-imaged) rather than rotated. Which option is the odd one out?



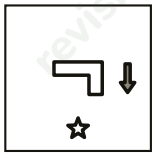


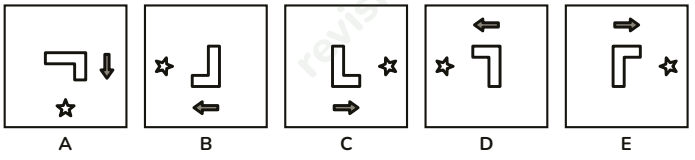
10 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?





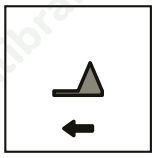
11 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?

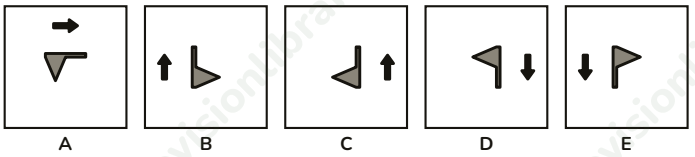




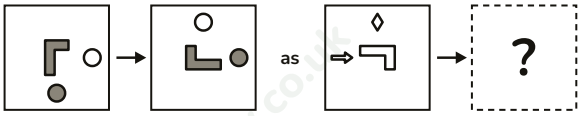
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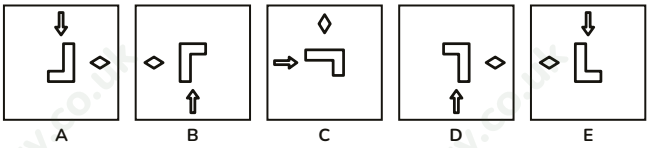
12 The shape in the stem is rotated 270 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



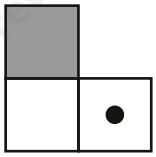


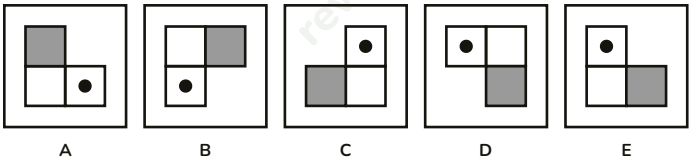
13 Shape 1 is rotated to give Shape 2 (shown as a pair below). Apply the same rotation to Shape 3. Which option, A to E, shows the result?



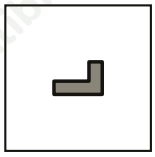


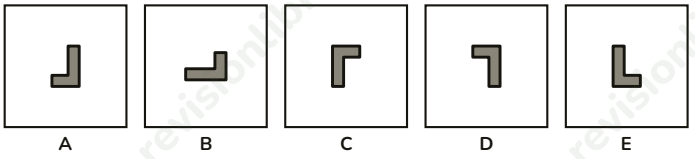
14 The tile in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the tile after this rotation?



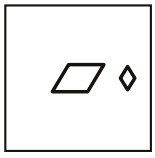


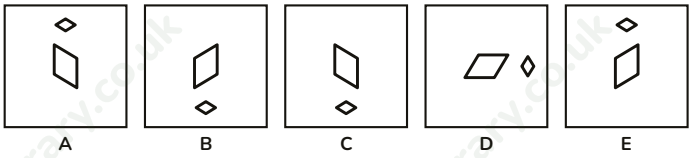
15 The shape in the stem is rotated 90 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?



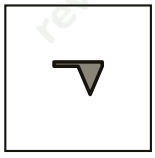


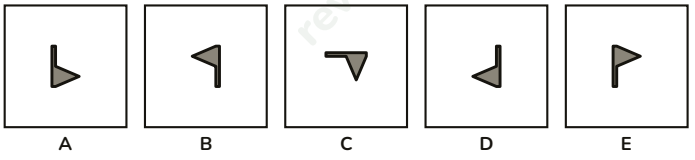
16 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?





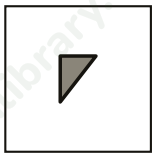
17 The shape in the stem is rotated 270 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?

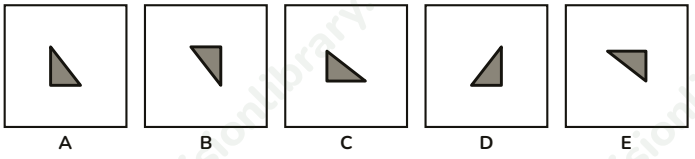




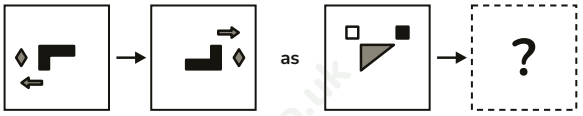
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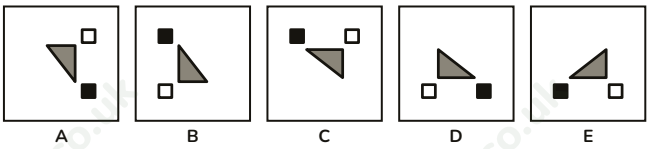
18 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?





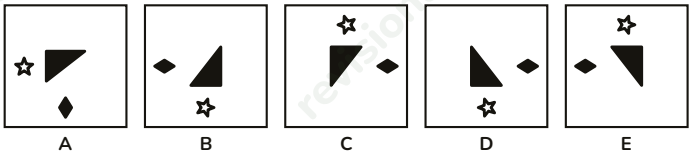
19 Shape 1 is rotated to give Shape 2 (shown as a pair below). Apply the same rotation to Shape 3. Which option, A to E, shows the result?



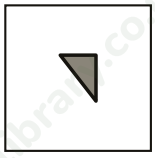


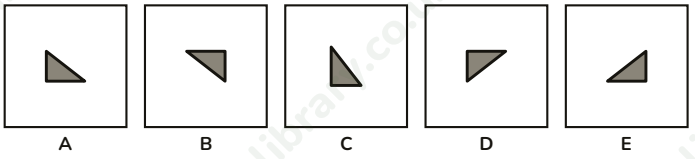
20 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



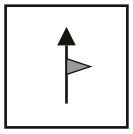


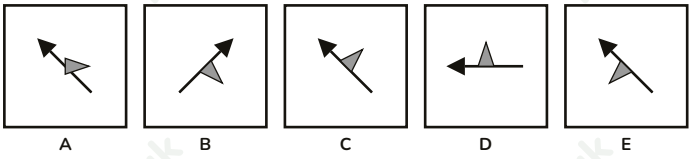
21 The shape in the stem is rotated 270 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?



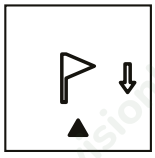


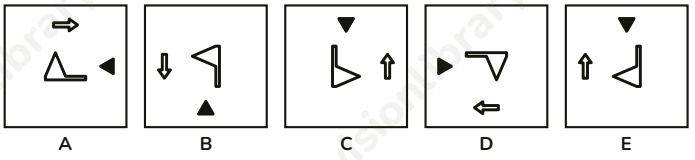
22 The shape in the stem is rotated 45 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



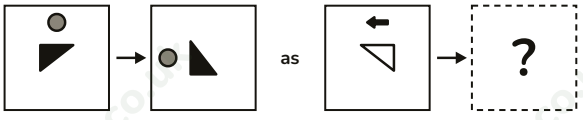


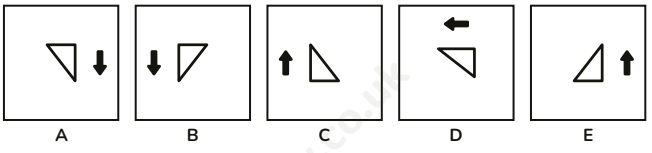
23 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?





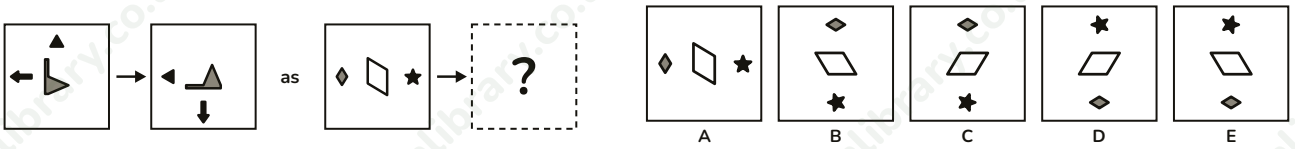
24 Shape 1 is rotated to give Shape 2 (shown as a pair below). Apply the same rotation to Shape 3. Which option, A to E, shows the result?



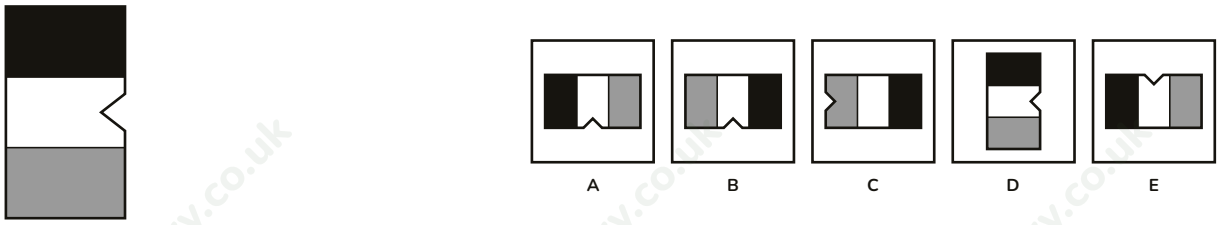


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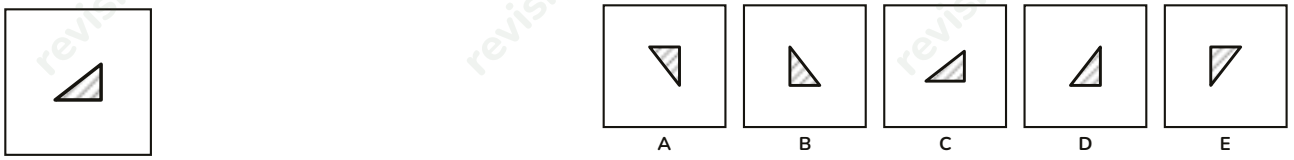
25



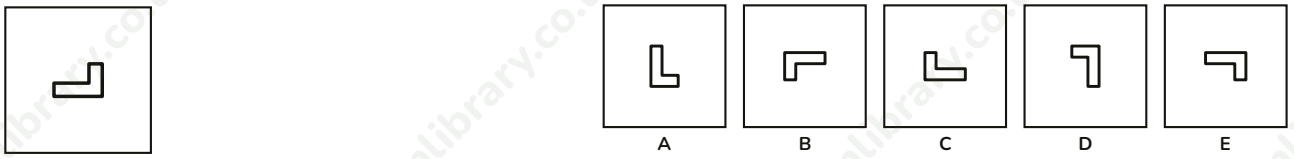
26 The flag in the stem is rotated 90 degrees clockwise about its centre. Which option, A to E, shows the flag after this rotation?



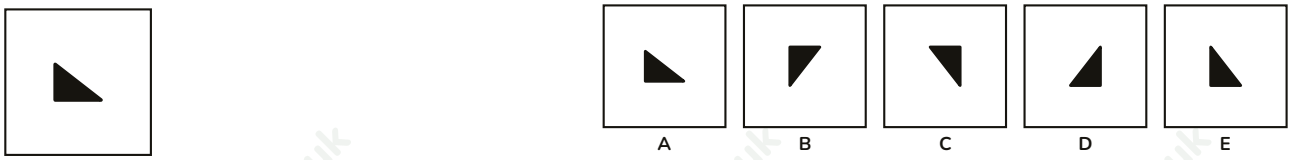
27 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



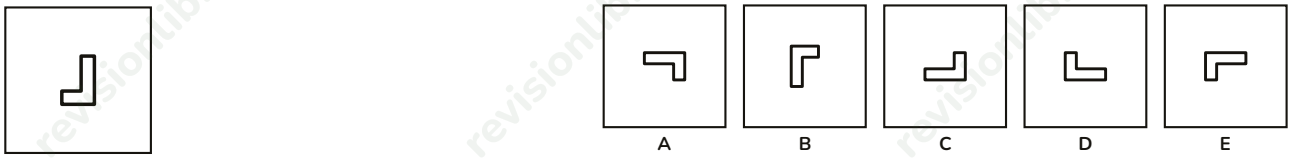
28 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?



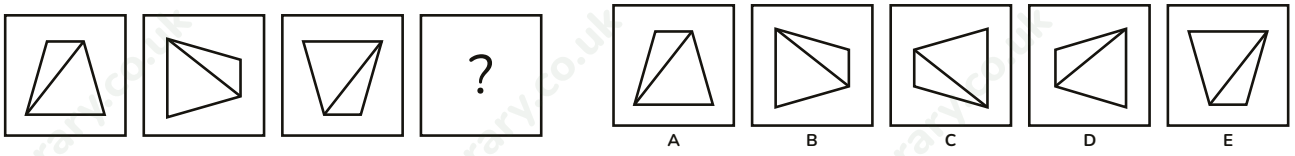
29 The shape in the stem is rotated 270 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?



30 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?

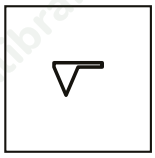


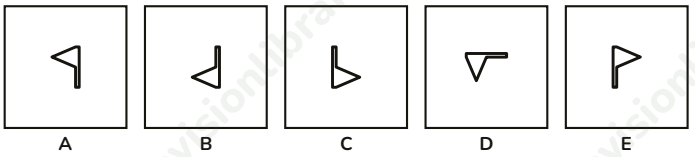
31 The three panels show the same trapezium rotating by a fixed 90 degree clockwise step each time. Which option, A to E, correctly shows the fourth panel in the sequence?



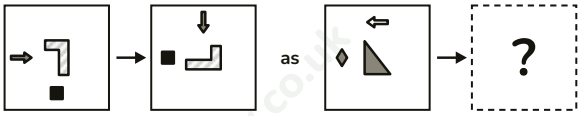
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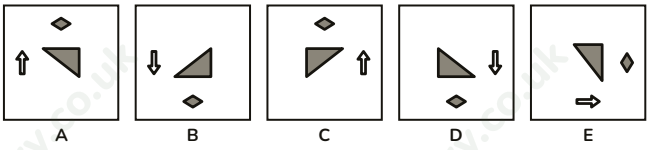
32 The shape in the stem is rotated 270 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?



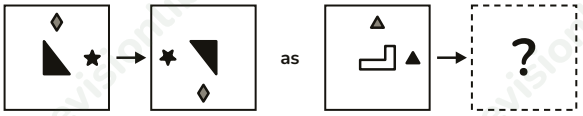


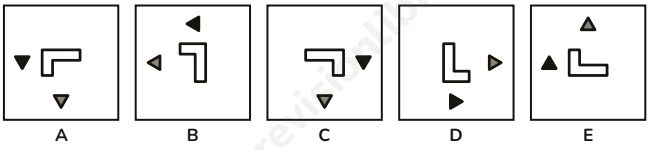
33 Shape 1 is rotated to give Shape 2 (shown as a pair below). Apply the same rotation to Shape 3. Which option, A to E, shows the result?



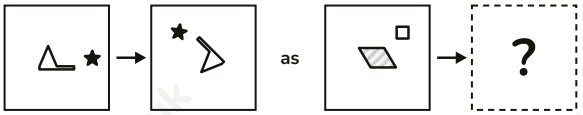


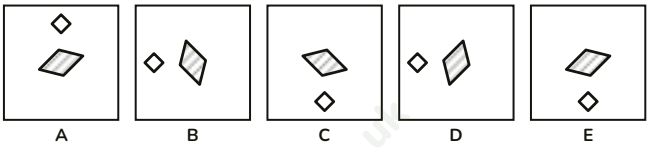
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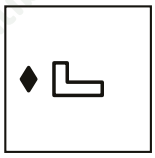


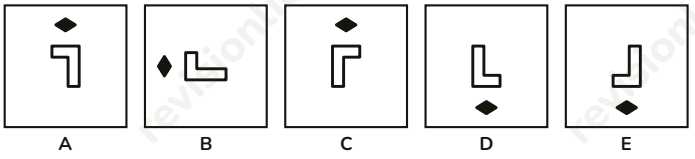
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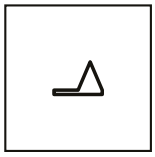


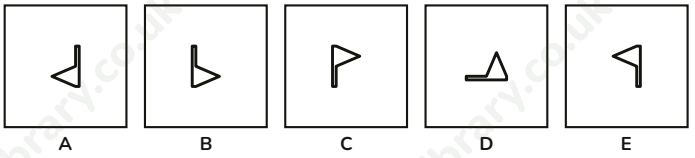
36 The shape in the stem is rotated 90 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?





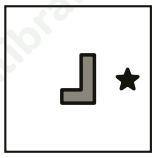
37 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?

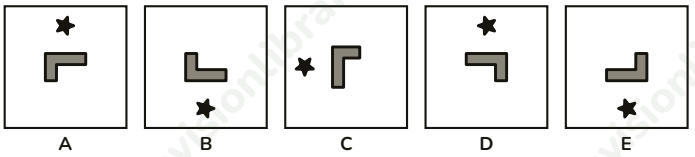




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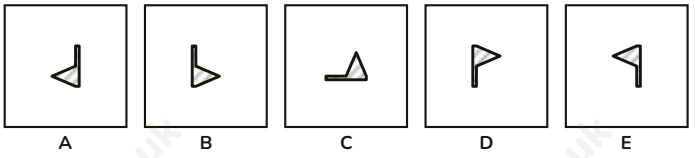
38 The shape in the stem is rotated 90 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?





39





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Mark scheme · 4.5 Rotation: Test Pack

Question 1

selects option E: A medium diagonally hatched right-angled triangle with its right angle at the up-right corner and legs extending left and down (cao) **B1**

Answer: E) A medium diagonally hatched right-angled triangle with its right angle at the up-right corner and legs extending left and down

Question 2

selects option E: A medium diagonally hatched L-shape with its long arm extending right from the corner and its short arm extending down and a small mid-grey diamond with its long diagonal running down to up in the right part (cao) **B1**

Answer: E) A medium diagonally hatched L-shape with its long arm extending right from the corner and its short arm extending down and a small mid-grey diamond with its long diagonal running down to up in the right part

Question 3

selects option C: A medium mid-grey flag with the pennant at the down end of the pole on its right side and a small solid black diamond with its long diagonal running right to left in the bottom part and a small solid black triangle with one point facing right in the top part (cao) **B1**

Answer: C) A medium mid-grey flag with the pennant at the down end of the pole on its right side and a small solid black diamond with its long diagonal running right to left in the bottom part and a small solid black triangle with one point facing right in the top part

Question 4

selects option A: A medium solid black L-shape with its long arm extending up from the corner and its short arm extending left and a small unshaded (white) triangle with one point facing down in the bottom part and a small unshaded (white) square in the right part (cao) **B1**

Answer: A) A medium solid black L-shape with its long arm extending up from the corner and its short arm extending left and a small unshaded (white) triangle with one point facing down in the bottom part and a small unshaded (white) square in the right part

Question 5

Correct option identified (B oe) - a black point on the right, rotated 90 degrees anticlockwise the same way Shape 1 became Shape 2, moves to the top **B1**

Answer: B

Question 6

selects option D: A medium unshaded (white) L-shape with its long arm extending up from the corner and its short arm extending left (cao) **B1**

Answer: D) A medium unshaded (white) L-shape with its long arm extending up from the corner and its short arm extending left

Question 7

selects option C: A medium solid black L-shape with its long arm extending up from the corner and its short arm extending left and a small unshaded (white) diamond with its long diagonal running down to up in the bottom part (cao) **B1**

Answer: C) A medium solid black L-shape with its long arm extending up from the corner and its short arm extending left and a small unshaded (white) diamond with its long diagonal running down to up in the bottom part

Question 8

selects option A: A medium diagonally hatched flag with the pennant at the right end of the pole on its down side (cao) **B1**

Answer: A) A medium diagonally hatched flag with the pennant at the right end of the pole on its down side

Question 9

Correct option identified (C oe) - the notch position (left-hand edge) matches the genuine 180 degree rotation, but the stripe order has not been reversed, which only happens if the flag is mirror-imaged rather than rotated **B1**

Answer: C

Question 10

selects option B: A medium unshaded (white) right-angled triangle with its right angle at the down-left corner and legs extending right and up (cao) **B1**

Answer: B) A medium unshaded (white) right-angled triangle with its right angle at the down-left corner and legs extending right and up

Question 11

selects option E: A medium unshaded (white) L-shape with its long arm extending down from the corner and its short arm extending right and a small unshaded (white) star with one point facing left in the right part and a small mid-grey arrow pointing right in the top part (cao) **B1**

Answer: E) A medium unshaded (white) L-shape with its long arm extending down from the corner and its short arm extending right and a small unshaded (white) star with one point facing left in the right part and a small mid-grey arrow pointing right in the top part

Question 12

selects option B: A medium mid-grey flag with the pennant at the down end of the pole on its right side and a small solid black arrow pointing up in the left part (cao) **B1**

Answer: B) A medium mid-grey flag with the pennant at the down end of the pole on its right side and a small solid black arrow pointing up in the left part

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Question 13

selects option B: A medium unshaded (white) L-shape with its long arm extending down from the corner and its short arm extending right and a small unshaded (white) arrow pointing up in the bottom part and a small unshaded (white) diamond with its long diagonal running left to right in the left part (cao) **B1**

Answer: B) A medium unshaded (white) L-shape with its long arm extending down from the corner and its short arm extending right and a small unshaded (white) arrow pointing up in the bottom part and a small unshaded (white) diamond with its long diagonal running left to right in the left part

Question 14

Correct option identified (C oe) - after a 90 degree anticlockwise turn the grey square moves from above the corner to the left of it, and the dot-square moves from the right of the corner to above it **B1**

Answer: C

Question 15

selects option E: A medium mid-grey L-shape with its long arm extending up from the corner and its short arm extending right (cao) **B1**

Answer: E) A medium mid-grey L-shape with its long arm extending up from the corner and its short arm extending right

Question 16

selects option A: A medium unshaded (white) parallelogram with long edges running up to down and short edges slanting down-right and a small unshaded (white) diamond with its long diagonal running left to right in the top part (cao) **B1**

Answer: A) A medium unshaded (white) parallelogram with long edges running up to down and short edges slanting down-right and a small unshaded (white) diamond with its long diagonal running left to right in the top part

Question 17

selects option D: A medium mid-grey flag with the pennant at the down end of the pole on its left side (cao) **B1**

Answer: D) A medium mid-grey flag with the pennant at the down end of the pole on its left side

Question 18

selects option D: A medium mid-grey right-angled triangle with its right angle at the down-right corner and legs extending up and left (cao) **B1**

Answer: D) A medium mid-grey right-angled triangle with its right angle at the down-right corner and legs extending up and left

Question 19

selects option E: A medium mid-grey right-angled triangle with its right angle at the down-right corner and legs extending left and up and a small solid black square in the bottom-left and a small unshaded (white) square in the bottom-right (cao) **B1**

Answer: E) A medium mid-grey right-angled triangle with its right angle at the down-right corner and legs extending left and up and a small solid black square in the bottom-left and a small unshaded (white) square in the bottom-right

Question 20

selects option D: A medium solid black right-angled triangle with its right angle at the down-left corner and legs extending up and right and a small solid black diamond with its long diagonal running left to right in the right part and a small unshaded (white) star with one point facing left in the bottom part (cao) **B1**

Answer: D) A medium solid black right-angled triangle with its right angle at the down-left corner and legs extending up and right and a small solid black diamond with its long diagonal running left to right in the right part and a small unshaded (white) star with one point facing left in the bottom part

Question 21

selects option D: A medium mid-grey right-angled triangle with its right angle at the up-left corner and legs extending right and down (cao) **B1**

Answer: D) A medium mid-grey right-angled triangle with its right angle at the up-left corner and legs extending right and down

Question 22

Correct option identified (C oe) - both the arrow and the flag must rotate together by the same 45 degree anticlockwise amount, from up to upper-left, and from right to upper-right **B1**

Answer: C

Question 23

selects option E: A medium unshaded (white) flag with the pennant at the down end of the pole on its left side and a small solid black triangle with one point facing down in the top part and a small unshaded (white) arrow pointing up in the left part (cao) **B1**

Answer: E) A medium unshaded (white) flag with the pennant at the down end of the pole on its left side and a small solid black triangle with one point facing down in the top part and a small unshaded (white) arrow pointing up in the left part

Question 24

selects option B: A medium unshaded (white) right-angled triangle with its right angle at the up-left corner and legs extending down and right and a small solid black arrow pointing down in the left part (cao) **B1**

Answer: B) A medium unshaded (white) right-angled triangle with its right angle at the up-left corner and legs extending down and right and a small solid black arrow pointing down in the left part

Question 25

selects option D: A medium unshaded (white) parallelogram with long edges running left to right and short edges slanting up-right and a small solid black star with one point facing left in the top part and a small mid-grey diamond with its long diagonal running left to right in the bottom part (cao) **B1**

Answer: D) A medium unshaded (white) parallelogram with long edges running left to right and short edges slanting up-right and a small solid black star with one point facing left in the top part and a small mid-grey diamond with its long diagonal running left to right in the bottom part

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Question 26

Correct option identified (B oe) - the notch moves from the right edge to the bottom edge, and the stripe order reverses (grey, white, black) once the stripes become vertical **B1**

Answer: B

Question 27

selects option A: A medium diagonally hatched right-angled triangle with its right angle at the up-right corner and legs extending down and left (cao) **B1**

Answer: A) A medium diagonally hatched right-angled triangle with its right angle at the up-right corner and legs extending down and left

Question 28

selects option B: A medium unshaded (white) L-shape with its long arm extending right from the corner and its short arm extending down (cao) **B1**

Answer: B) A medium unshaded (white) L-shape with its long arm extending right from the corner and its short arm extending down

Question 29

selects option D: A medium solid black right-angled triangle with its right angle at the down-right corner and legs extending up and left (cao) **B1**

Answer: D) A medium solid black right-angled triangle with its right angle at the down-right corner and legs extending up and left

Question 30

selects option A: A medium unshaded (white) L-shape with its long arm extending left from the corner and its short arm extending down (cao) **B1**

Answer: A) A medium unshaded (white) L-shape with its long arm extending left from the corner and its short arm extending down

Question 31

Correct option identified (C oe) - continuing the 90 degree clockwise step from Panel 3 moves the long edge to the right and the diagonal to top-left/bottom-right **B1**

Answer: C

Question 32

selects option C: A medium unshaded (white) flag with the pennant at the down end of the pole on its right side (cao) **B1**

Answer: C) A medium unshaded (white) flag with the pennant at the down end of the pole on its right side

Question 33

selects option C: A medium mid-grey right-angled triangle with its right angle at the up-left corner and legs extending right and down and a small mid-grey diamond with its long diagonal running right to left in the top part and a small unshaded (white) arrow pointing up in the right part (cao) **B1**

Answer: C) A medium mid-grey right-angled triangle with its right angle at the up-left corner and legs extending right and down and a small mid-grey diamond with its long diagonal running right to left in the top part and a small unshaded (white) arrow pointing up in the right part

Question 34

selects option A: A medium unshaded (white) L-shape with its long arm extending right from the corner and its short arm extending down and a small mid-grey triangle with one point facing down in the bottom part and a small solid black triangle with one point facing down in the left part (cao) **B1**

Answer: A) A medium unshaded (white) L-shape with its long arm extending right from the corner and its short arm extending down and a small mid-grey triangle with one point facing down in the bottom part and a small solid black triangle with one point facing down in the left part

Question 35

selects option B: A medium diagonally hatched parallelogram with long edges running up-left to down-right and short edges slanting down and a small unshaded (white) square standing on a corner in the left part (cao) **B1**

Answer: B) A medium diagonally hatched parallelogram with long edges running up-left to down-right and short edges slanting down and a small unshaded (white) square standing on a corner in the left part

Question 36

selects option C: A medium unshaded (white) L-shape with its long arm extending down from the corner and its short arm extending right and a small solid black diamond with its long diagonal running right to left in the top part (cao) **B1**

Answer: C) A medium unshaded (white) L-shape with its long arm extending down from the corner and its short arm extending right and a small solid black diamond with its long diagonal running right to left in the top part

Question 37

selects option E: A medium unshaded (white) flag with the pennant at the up end of the pole on its left side (cao) **B1**

Answer: E) A medium unshaded (white) flag with the pennant at the up end of the pole on its left side

Question 38

selects option B: A medium mid-grey L-shape with its long arm extending right from the corner and its short arm extending up and a small solid black star with one point facing right in the bottom part (cao) **B1**

Answer: B) A medium mid-grey L-shape with its long arm extending right from the corner and its short arm extending up and a small solid black star with one point facing right in the bottom part

Question 39

selects option E: A medium diagonally hatched flag with the pennant at the up end of the pole on its left side (cao) **B1**

Answer: E) A medium diagonally hatched flag with the pennant at the up end of the pole on its left side

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