4.5 Rotation: 1-hour Pack

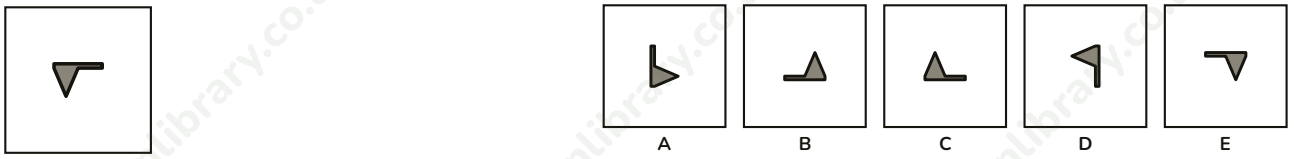
GL ASSESSMENT GL-EP.N7 · Calculators not allowed · about 60 minutes

Total Marks

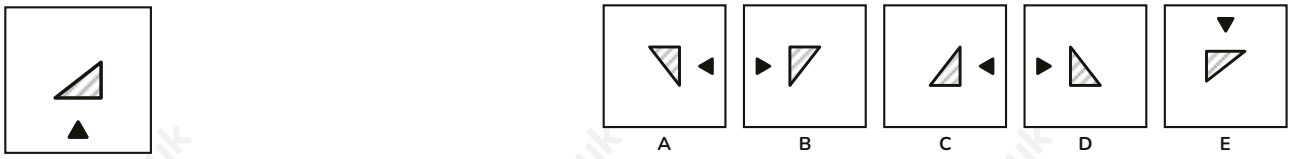
Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

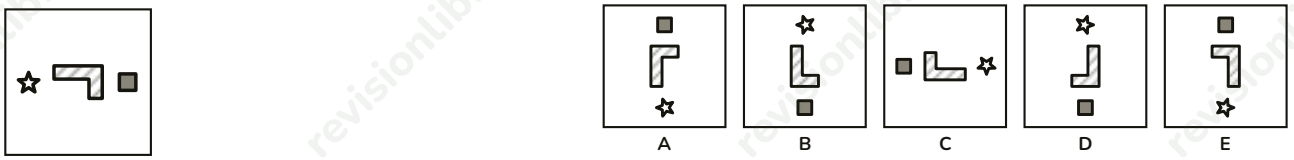
1 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?



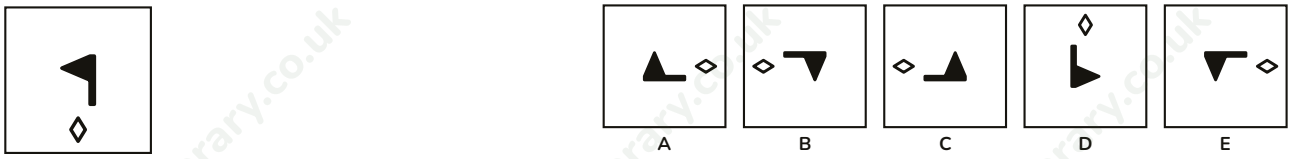
2 The shape in the stem is rotated 270 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



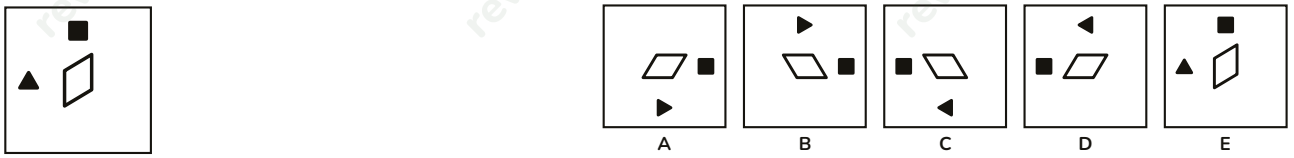
3 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



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

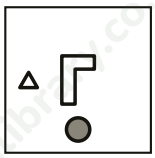


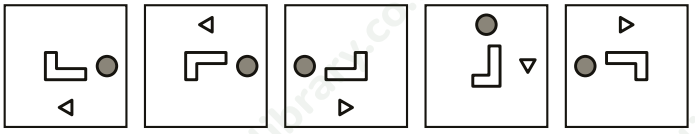
5 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



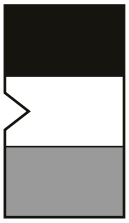
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6



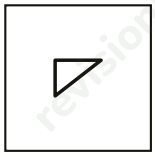


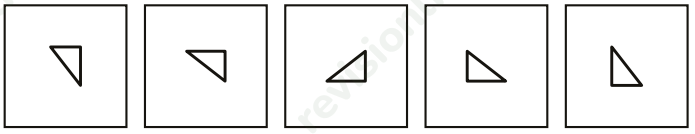
7 The flag in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the flag after this rotation?



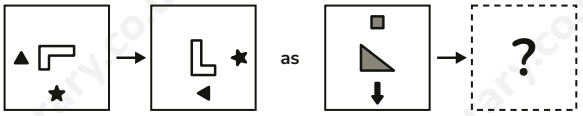


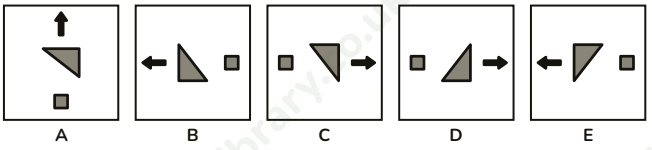
8 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?





9 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?



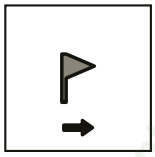


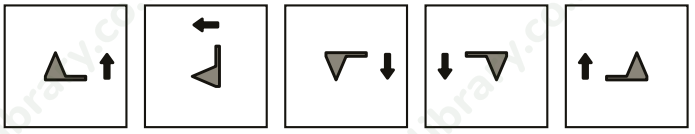
10 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



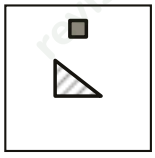


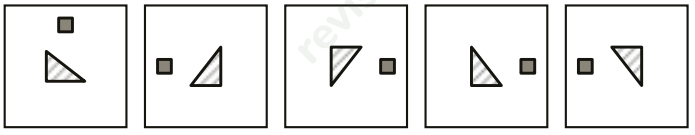
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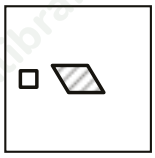
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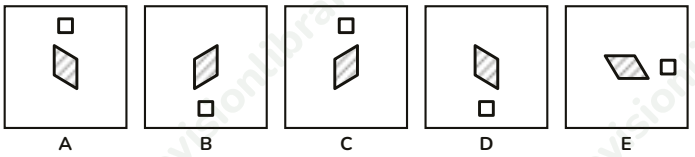




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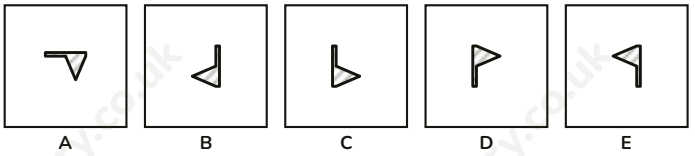
13 The shape in the stem is rotated 90 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?



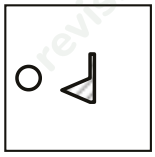


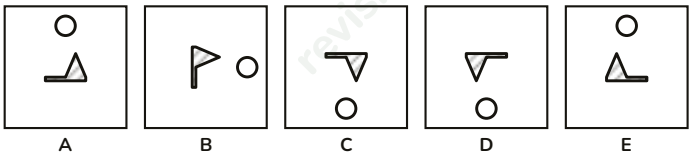
14 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



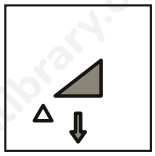


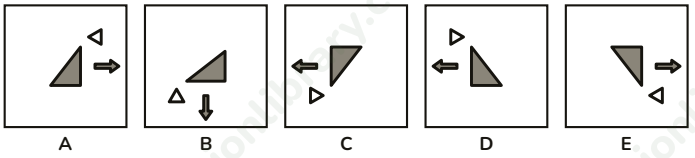
15 The shape in the stem is rotated 90 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?



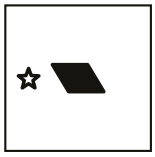


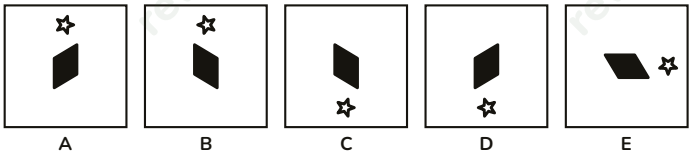
16 The shape in the stem is rotated 270 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?





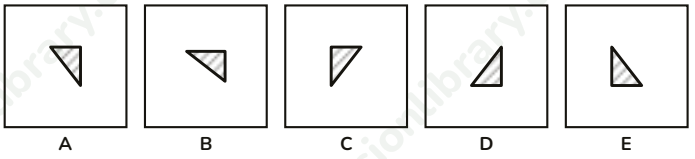
17





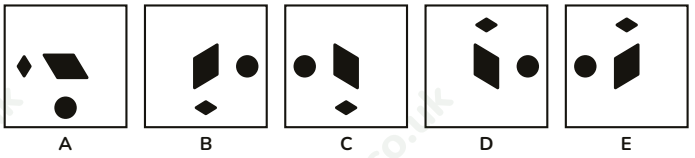
18 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?





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





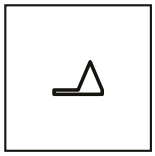
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20 The shape in the stem is rotated 270 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?



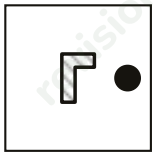


21 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?



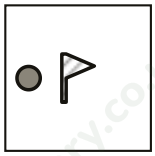


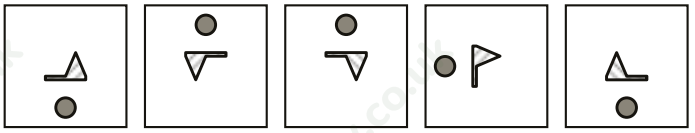
22 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



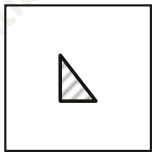


23



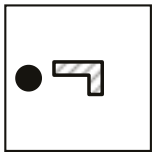


24



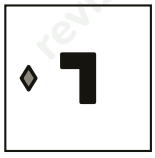


25 The shape in the stem is rotated 270 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?



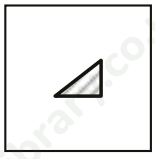


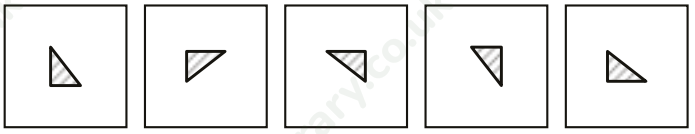
26 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?





27

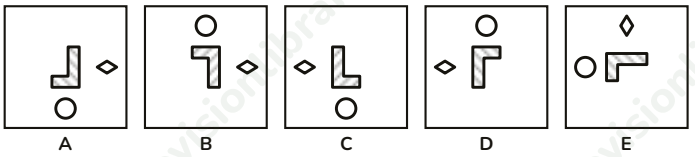




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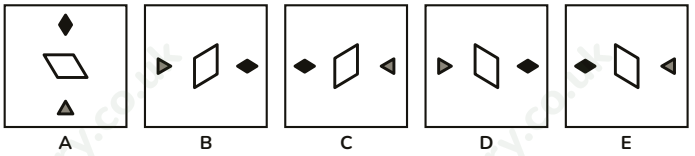
28 The shape in the stem is rotated 270 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?



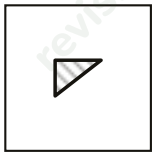


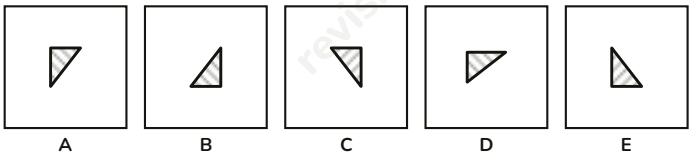
29 The shape in the stem is rotated 90 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?





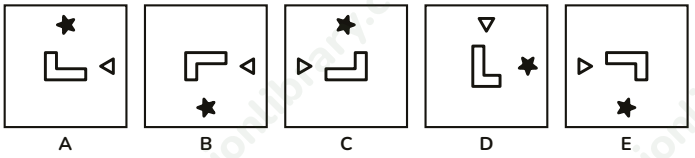
30 The shape in the stem is rotated 270 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?





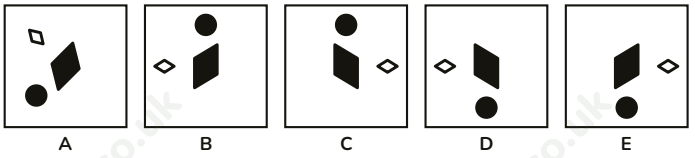
31 The shape in the stem is rotated 270 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?





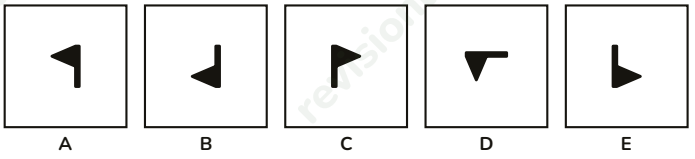
32 The shape in the stem is rotated 270 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?





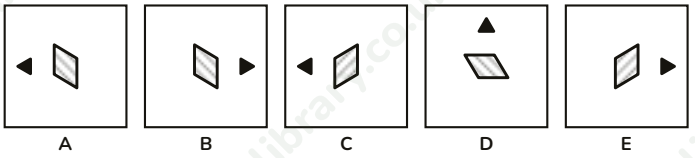
33 The shape in the stem is rotated 90 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?





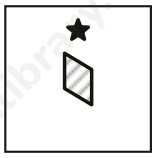
34 The shape in the stem is rotated 270 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?

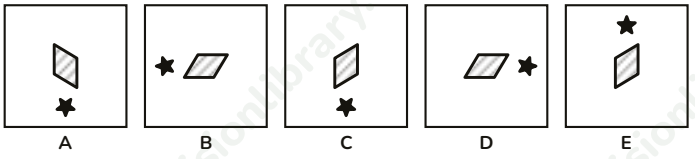




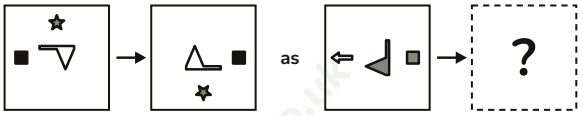
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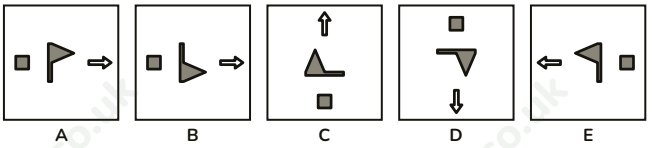
35 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?



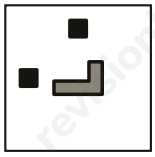


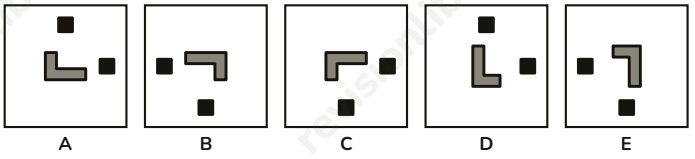
36 Shape 1 is rotated to give Shape 2 (shown as a pair below). Apply the same rotation to Shape 3. Which option, A to E, shows the result?



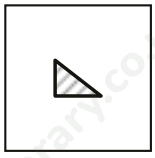


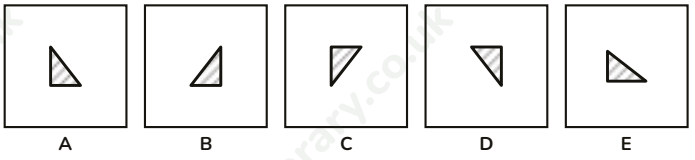
37 The shape in the stem is rotated 180 degrees about its centre. Which option, A to E, shows the shape after this rotation?



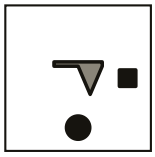


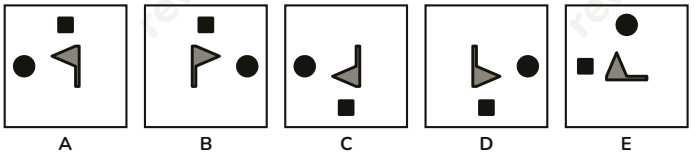
38 The shape in the stem is rotated 270 degrees clockwise about its centre. Which option, A to E, shows the shape after this rotation?



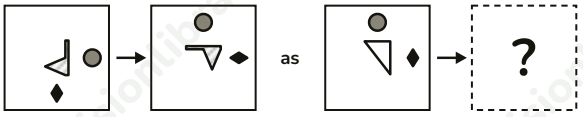


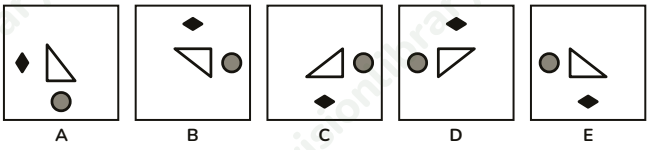
39 The shape in the stem is rotated 270 degrees anticlockwise about its centre. Which option, A to E, shows the shape after this rotation?



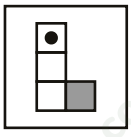


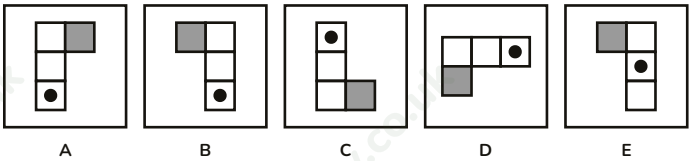
40 Shape 1 is rotated to give Shape 2 (shown as a pair below). Apply the same rotation to Shape 3. Which option, A to E, shows the result?





41 The tile in the stem is rotated 90 degrees clockwise, then rotated a further 90 degrees clockwise (180 degrees in total). Which option, A to E, shows the tile after both rotations?





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Mark scheme · 4.5 Rotation: 1-hour Pack

Question 1

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

Answer: B) A medium mid-grey flag with the pennant at the right end of the pole on its up side

Question 2

selects option D: A medium diagonally hatched right-angled triangle with its right angle at the down-left corner and legs extending up and right and a small solid black triangle with one point facing right in the left part (cao) **B1**

Answer: D) A medium diagonally hatched right-angled triangle with its right angle at the down-left corner and legs extending up and right and a small solid black triangle with one point facing right in the left part

Question 3

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

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

Question 4

selects option C: A medium solid black flag with the pennant at the right end of the pole on its up side and a small unshaded (white) diamond with its long diagonal running right to left in the left part (cao) **B1**

Answer: C) A medium solid black flag with the pennant at the right end of the pole on its up side and a small unshaded (white) diamond with its long diagonal running right to left in the left part

Question 5

selects option C: A medium unshaded (white) parallelogram with long edges running right to left and short edges slanting up-left and a small solid black square in the left part and a small solid black triangle with one point facing left in the bottom part (cao) **B1**

Answer: C) A medium unshaded (white) parallelogram with long edges running right to left and short edges slanting up-left and a small solid black square in the left part and a small solid black triangle with one point facing left in the bottom part

Question 6

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

Question 7

Correct option identified (A oe) - the notch moves from the left edge to the right edge, and the stripe order reverses top to bottom (grey, white, black), while the rectangle stays tall since 180 degrees does not change tall to wide **B1**

Answer: A

Question 8

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

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

Question 9

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 and a small solid black arrow pointing right in the right part and a small mid-grey square in the left part (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 and a small solid black arrow pointing right in the right part and a small mid-grey square in the left part

Question 10

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

Answer: E) A medium solid black parallelogram with long edges running up to down and short edges slanting down-left and a small mid-grey diamond with its long diagonal running left to right in the left part

Question 11

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

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

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Question 12

selects option B: A medium diagonally hatched right-angled triangle with its right angle at the down-right corner and legs extending up and left and a small mid-grey square in the left part (cao) **B1**

Answer: B) A medium diagonally hatched right-angled triangle with its right angle at the down-right corner and legs extending up and left and a small mid-grey square in the left part

Question 13

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

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

Question 14

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

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

Question 15

selects option E: A medium diagonally hatched flag with the pennant at the left end of the pole on its up side and a small unshaded (white) circle in the top part (cao) **B1**

Answer: E) A medium diagonally hatched flag with the pennant at the left end of the pole on its up side and a small unshaded (white) circle in the top part

Question 16

selects option E: A medium mid-grey right-angled triangle with its right angle at the up-right corner and legs extending down and left and a small mid-grey arrow pointing right in the right part and a small unshaded (white) triangle with one point facing left in the bottom-right (cao) **B1**

Answer: E) A medium mid-grey right-angled triangle with its right angle at the up-right corner and legs extending down and left and a small mid-grey arrow pointing right in the right part and a small unshaded (white) triangle with one point facing left in the bottom-right

Question 17

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

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

Question 18

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

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

Question 19

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

Answer: B) A medium solid black parallelogram with long edges running down to up and short edges slanting up-right and a small solid black circle in the right part and a small solid black diamond with its long diagonal running right to left in the bottom part

Question 20

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

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

Question 21

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

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

Question 22

selects option A: A medium diagonally hatched L-shape with its long arm extending right from the corner and its short arm extending up and a small solid black circle in the top part (cao) **B1**

Answer: A) A medium diagonally hatched L-shape with its long arm extending right from the corner and its short arm extending up and a small solid black circle in the top part

Question 23

selects option E: A medium diagonally hatched flag with the pennant at the left end of the pole on its up side and a small mid-grey circle in the bottom part (cao) **B1**

Answer: E) A medium diagonally hatched flag with the pennant at the left end of the pole on its up side and a small mid-grey circle in the bottom part

Question 24

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

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

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Question 25

selects option C: A medium diagonally hatched L-shape with its long arm extending down from the corner and its short arm extending right and a small solid black circle in the bottom part (cao) **B1**

Answer: C) A medium diagonally hatched L-shape with its long arm extending down from the corner and its short arm extending right and a small solid black circle in the bottom part

Question 26

selects option A: A medium solid black L-shape with its long arm extending up from the corner and its short arm extending right and a small mid-grey diamond with its long diagonal running down to up 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 right and a small mid-grey diamond with its long diagonal running down to up in the right part

Question 27

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

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

Question 28

selects option C: A medium diagonally hatched L-shape with its long arm extending up from the corner and its short arm extending right and a small unshaded (white) circle 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: C) A medium diagonally hatched L-shape with its long arm extending up from the corner and its short arm extending right and a small unshaded (white) circle in the bottom part and a small unshaded (white) diamond with its long diagonal running left to right in the left part

Question 29

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

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

Question 30

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

Question 31

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

Question 32

selects option D: A medium solid black 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 right to left in the left part and a small solid black circle in the bottom part (cao) **B1**

Answer: D) A medium solid black 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 right to left in the left part and a small solid black circle in the bottom part

Question 33

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

Answer: E) A medium solid black flag with the pennant at the down end of the pole on its right side

Question 34

selects option C: A medium diagonally hatched parallelogram with long edges running up to down and short edges slanting down-left and a small solid black triangle with one point facing left in the left part (cao) **B1**

Answer: C) A medium diagonally hatched parallelogram with long edges running up to down and short edges slanting down-left and a small solid black triangle with one point facing left in the left part

Question 35

selects option A: A medium diagonally hatched parallelogram with long edges running up to down and short edges slanting down-right and a small solid black star with one point facing down in the bottom part (cao) **B1**

Answer: A) A medium diagonally hatched parallelogram with long edges running up to down and short edges slanting down-right and a small solid black star with one point facing down in the bottom part

Question 36

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

Answer: A) A medium mid-grey flag with the pennant at the up end of the pole on its right side and a small unshaded (white) arrow pointing right in the right part and a small mid-grey square in the left part

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Question 37

selects option C: A medium mid-grey L-shape with its long arm extending right from the corner and its short arm extending down and a small solid black square in the bottom part and a small solid black square in the right part (cao) **B1**

Answer: C) A medium mid-grey L-shape with its long arm extending right from the corner and its short arm extending down and a small solid black square in the bottom part and a small solid black square in the right part

Question 38

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

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

Question 39

selects option C: A medium mid-grey flag with the pennant at the down end of the pole on its left side and a small solid black square in the bottom part and a small solid black circle in the left part (cao) **B1**

Answer: C) A medium mid-grey flag with the pennant at the down end of the pole on its left side and a small solid black square in the bottom part and a small solid black circle in the left part

Question 40

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

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

Question 41

Correct option identified (B oe) - two successive 90 degree clockwise turns (180 degrees total) send the column from pointing up to pointing down and the single grey square from the right of the corner to the left, with the dot staying on the far square of the column **B1**

Answer: B

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