NNAT3 Level D Practice Test for Grades 3 and 4

16 color puzzles from the four skill builders, with every answer explained. Print in color.

These are original workbook questions, not official test questions. This short set does not predict a score. Follow your school's advice about preparation. You do not need the workbook to use this test.

Using the packet

Print in color on US Letter paper at actual size. Give your child pages 2–9. Circle the letter under the picture you choose. Set the explained answers on pages 10–13 aside.

Try a few questions at a time. A stretch question is the hardest in its section. It is fine to skip it.

Pattern completion

Choose the patch that completes the picture.

Reasoning by analogy

Look at the relationship between the pictures and choose the missing one.

Serial reasoning

Look along the rows and columns and choose the picture for the empty space.

Spatial visualization

The pictures are put together or flipped across a fold. Choose the picture for the empty space.

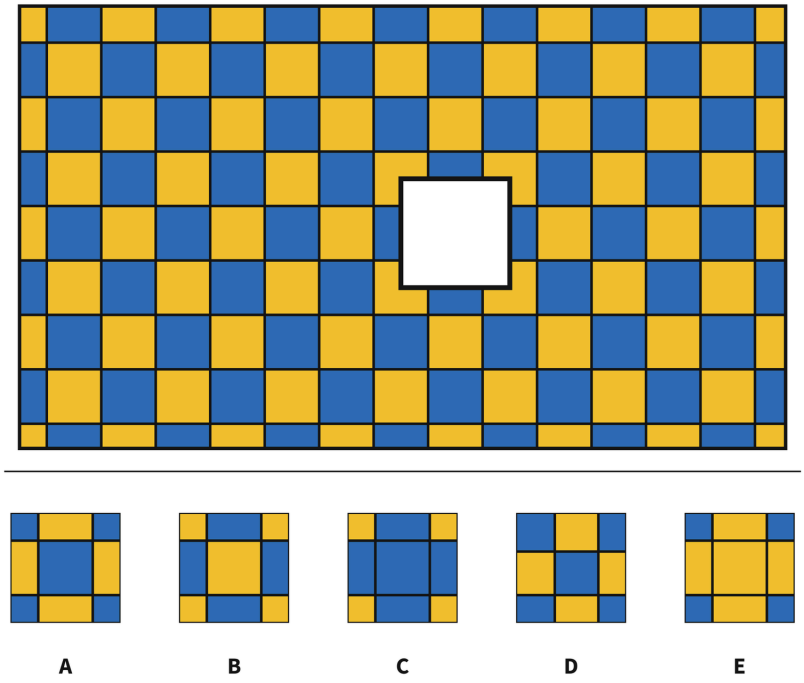
reasonwellpress.com/learn/nnat/practice-test-grades-3-4/

Text version with all pictures and choices described

Choose the patch that completes the picture. Circle the letter under the picture you choose.

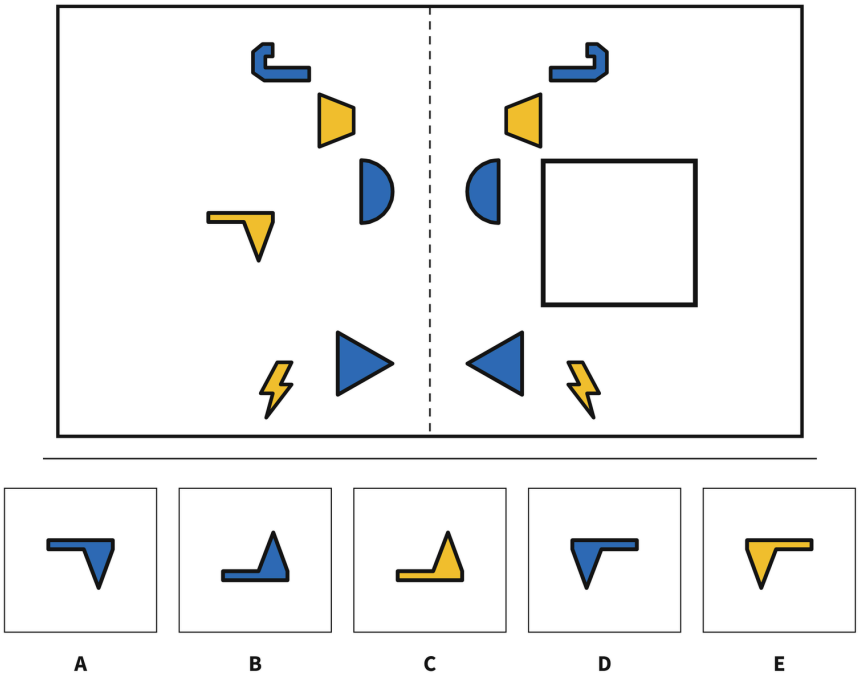
Pattern completion · Question 1

From the workbook, p. 25



Pattern completion · Question 2

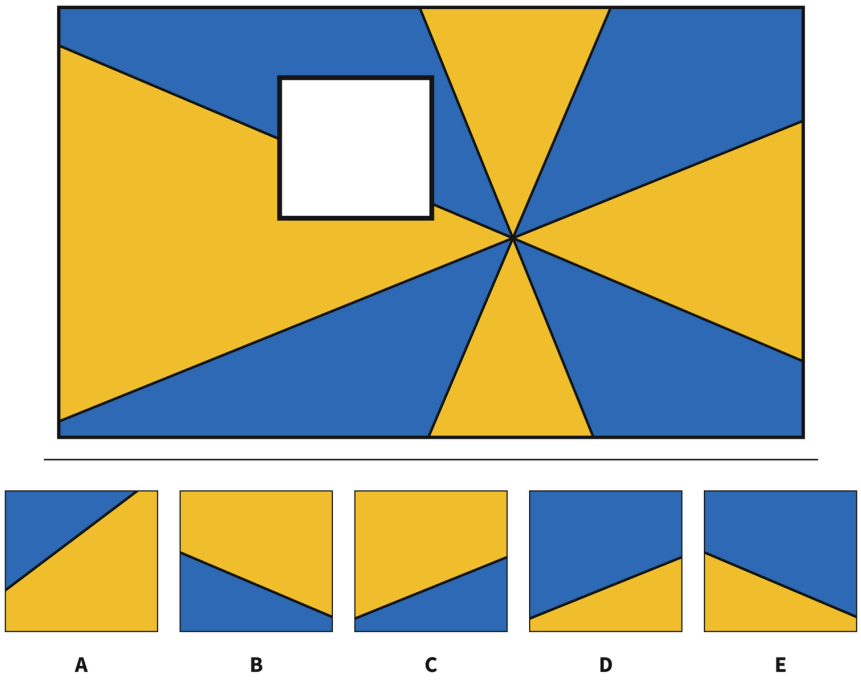
From the workbook, p. 26



Choose the patch that completes the picture. Circle the letter under the picture you choose.

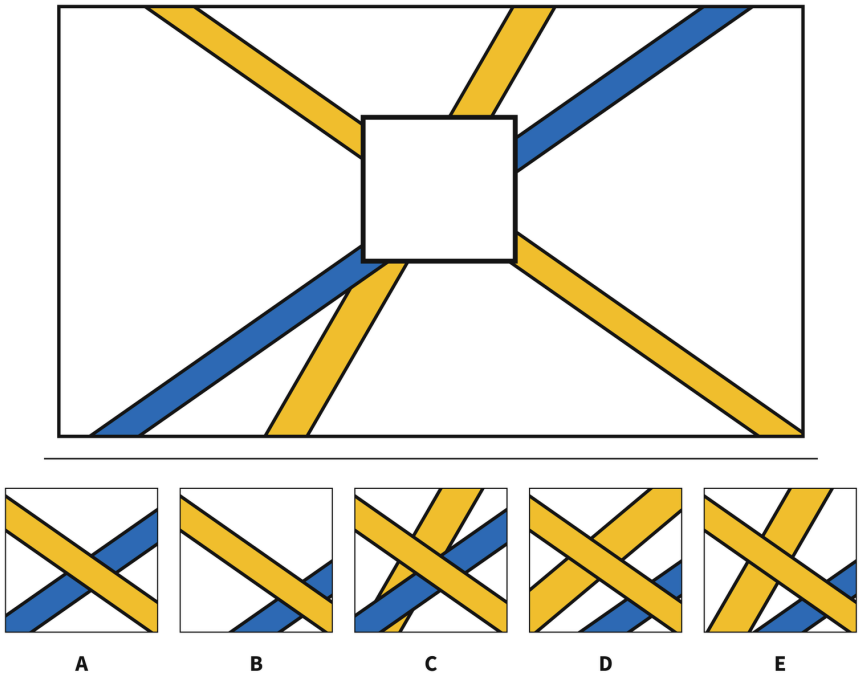
Pattern completion · Question 3

From the workbook, p. 27



Pattern completion · Question 4 · Stretch question

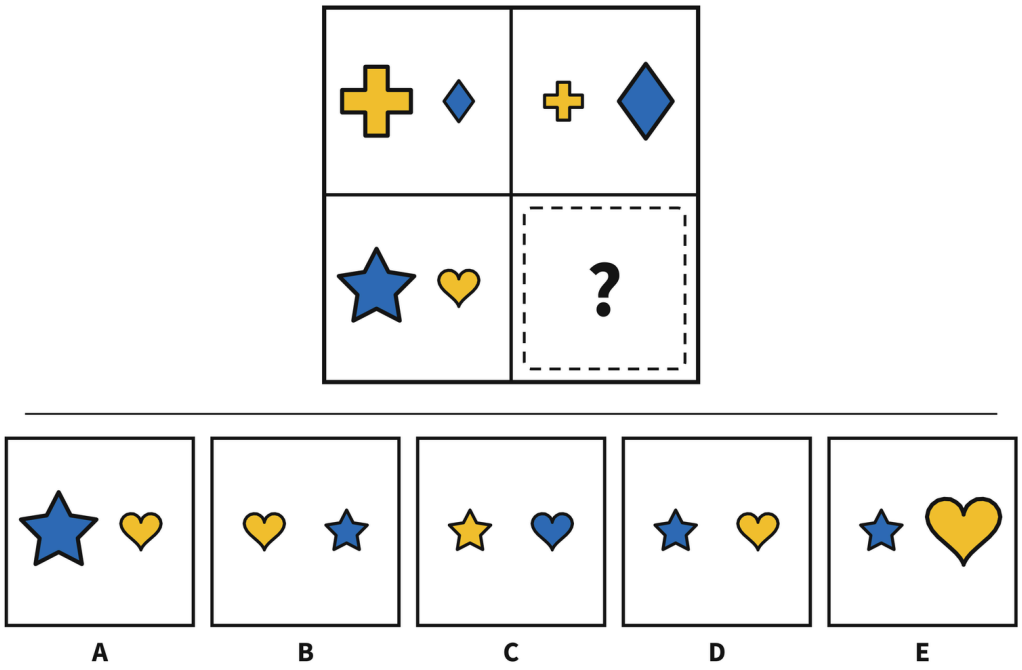
From the workbook, p. 30



Look at the relationship between the pictures and choose the missing one. Circle the letter under the picture you choose.

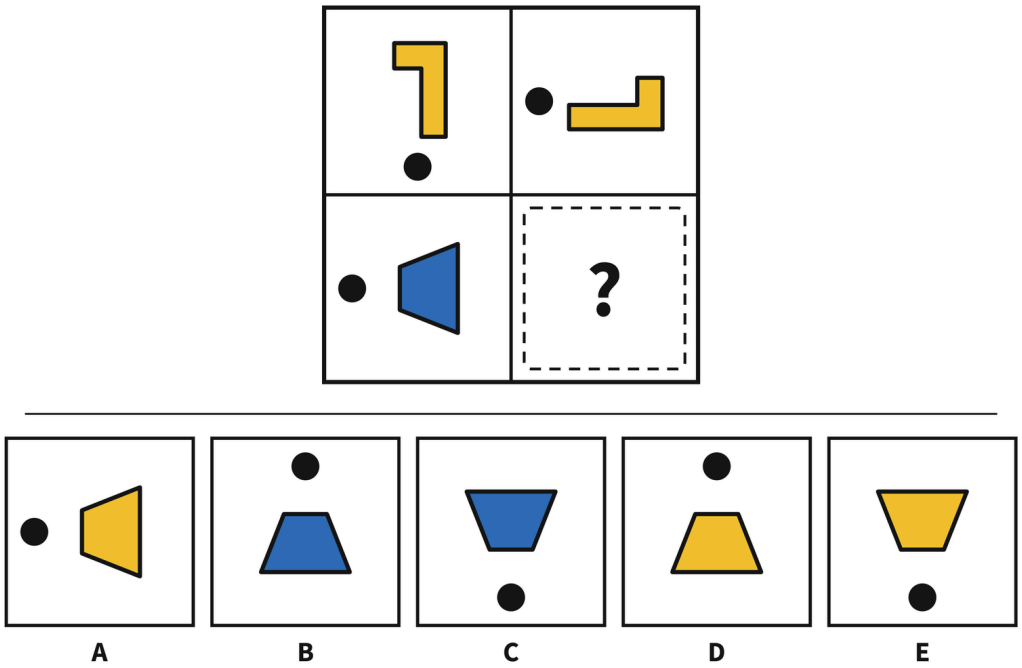
Reasoning by analogy · Question 5

From the workbook, p. 54



Reasoning by analogy · Question 6

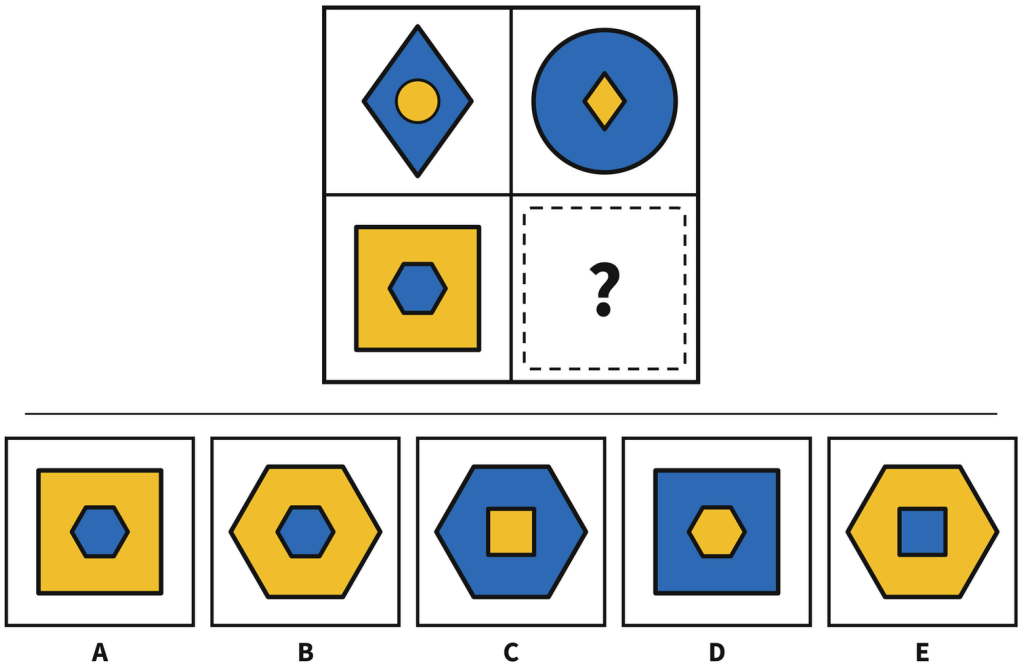
From the workbook, p. 55



Look at the relationship between the pictures and choose the missing one. Circle the letter under the picture you choose.

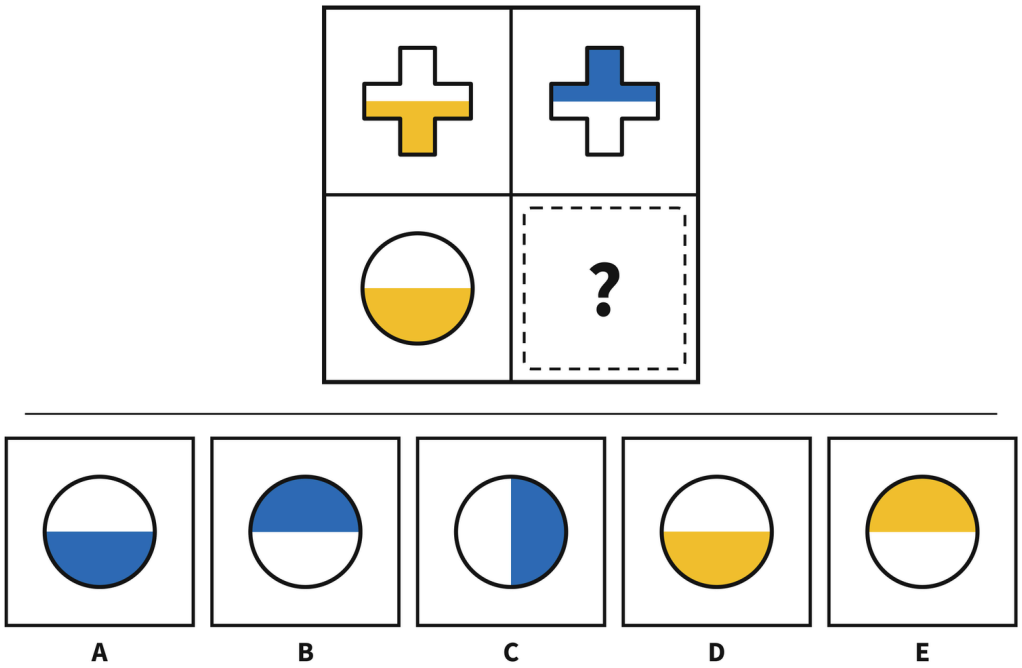
Reasoning by analogy · Question 7

From the workbook, p. 56



Reasoning by analogy · Question 8 · Stretch question

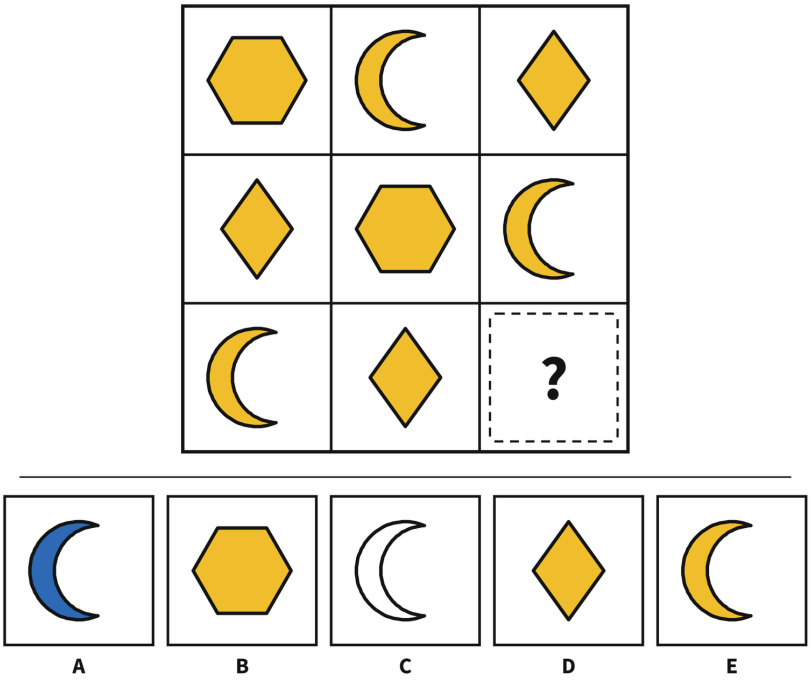
From the workbook, p. 57



Look along the rows and columns and choose the picture for the empty space. Circle the letter under the picture you choose.

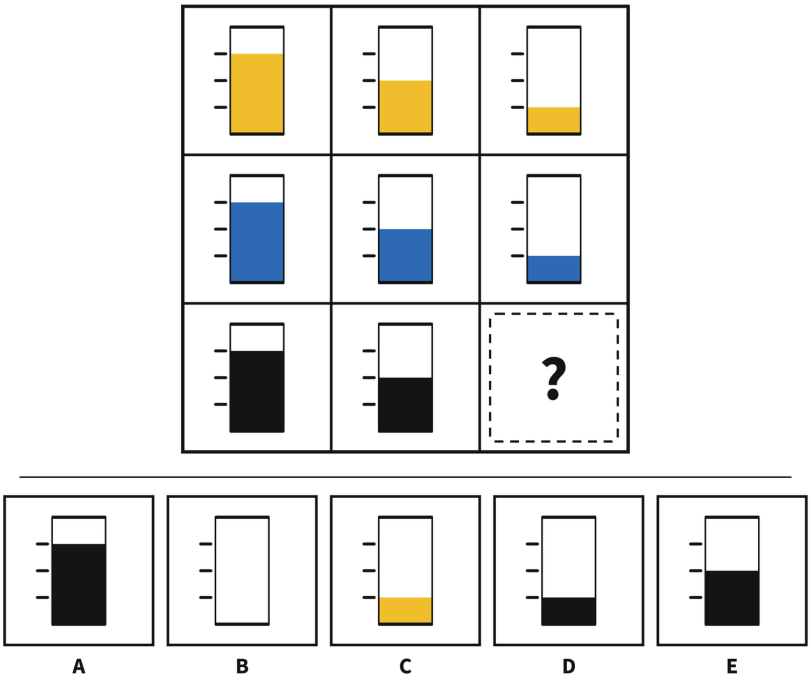
Serial reasoning · Question 9

From the workbook, p. 78



Serial reasoning · Question 10

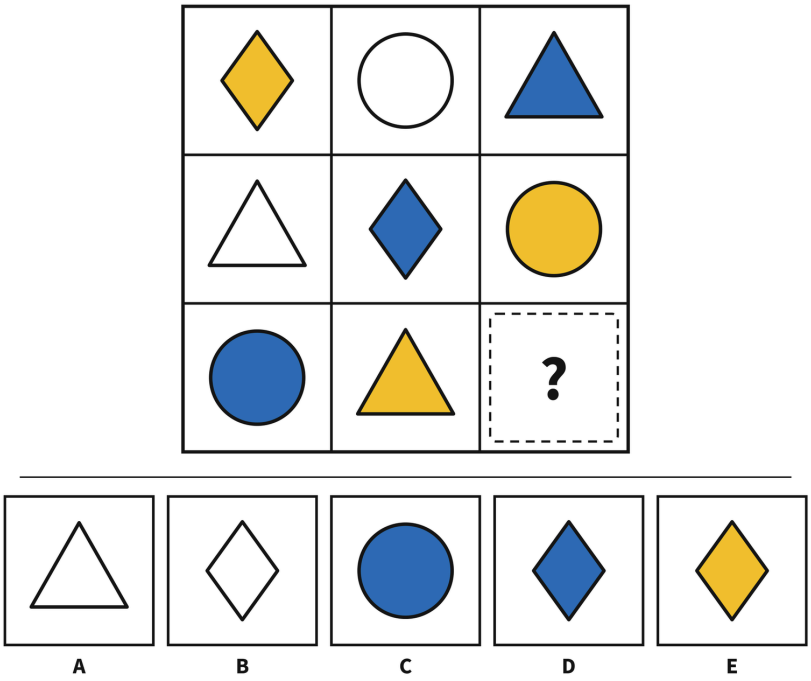
From the workbook, p. 80



Look along the rows and columns and choose the picture for the empty space. Circle the letter under the picture you choose.

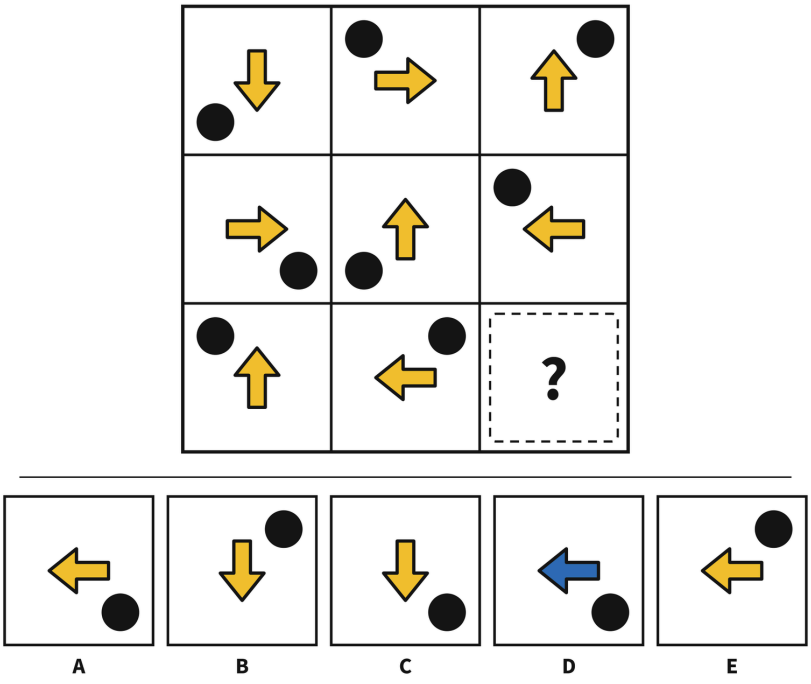
Serial reasoning · Question 11

From the workbook, p. 83



Serial reasoning · Question 12 · Stretch question

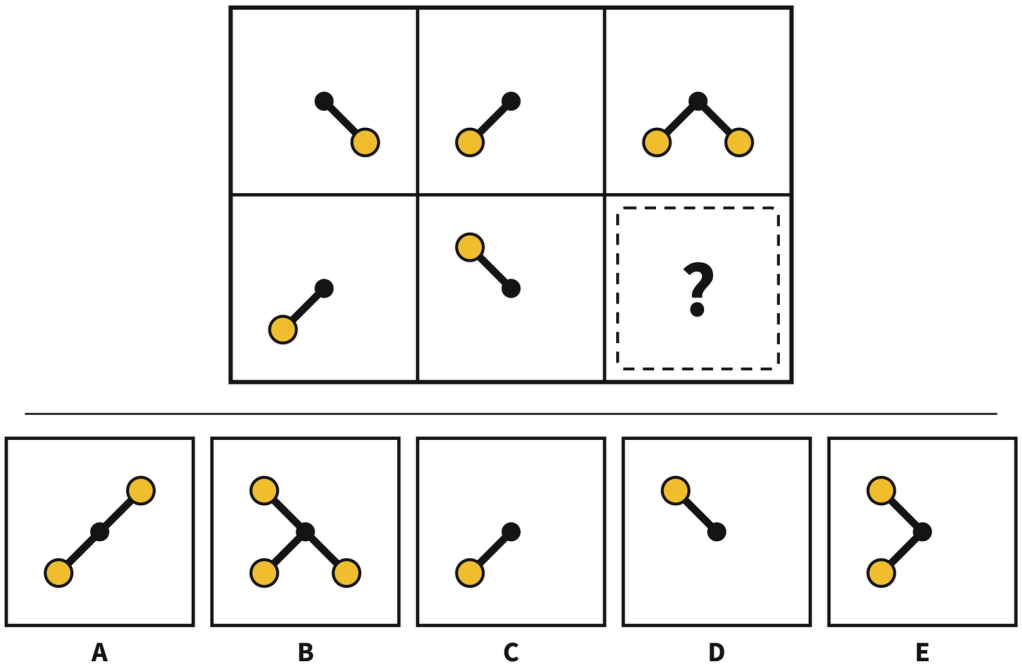
From the workbook, p. 84



The pictures are put together or flipped across a fold. Choose the picture for the empty space. Circle the letter under the picture you choose.

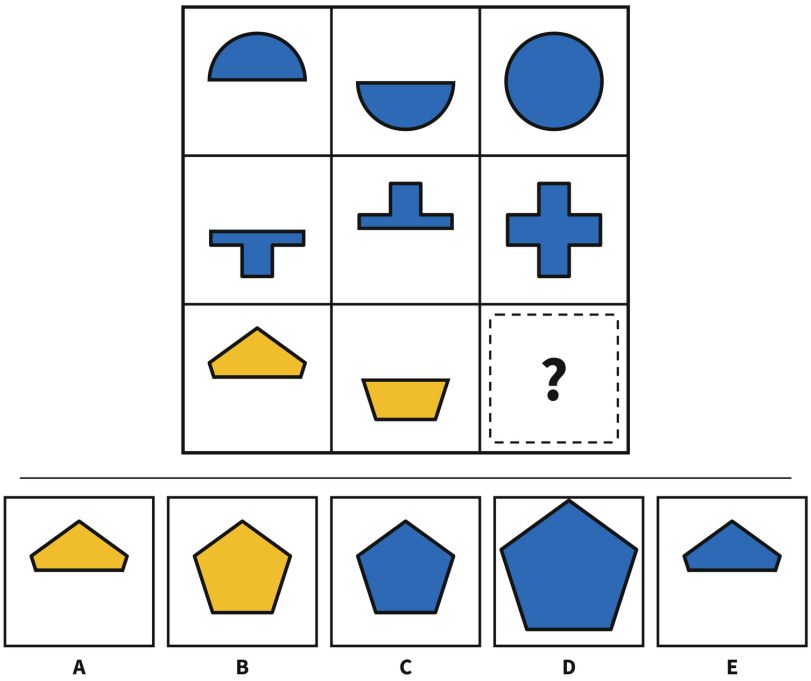
Spatial visualization · Question 13

From the workbook, p. 101



Spatial visualization · Question 14

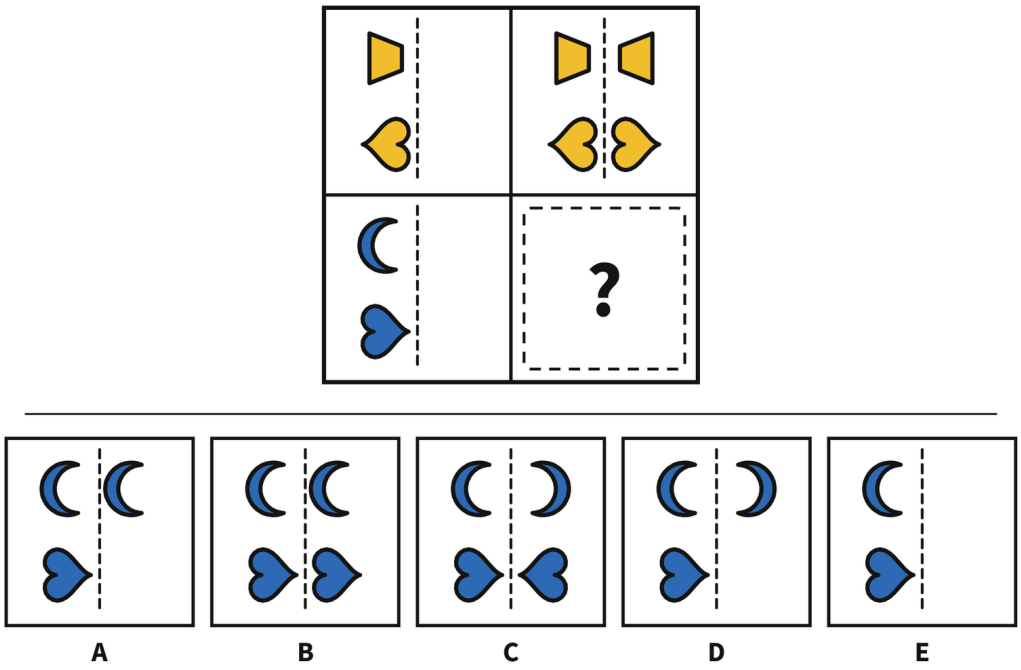
From the workbook, p. 103



The pictures are put together or flipped across a fold. Choose the picture for the empty space. Circle the letter under the picture you choose.

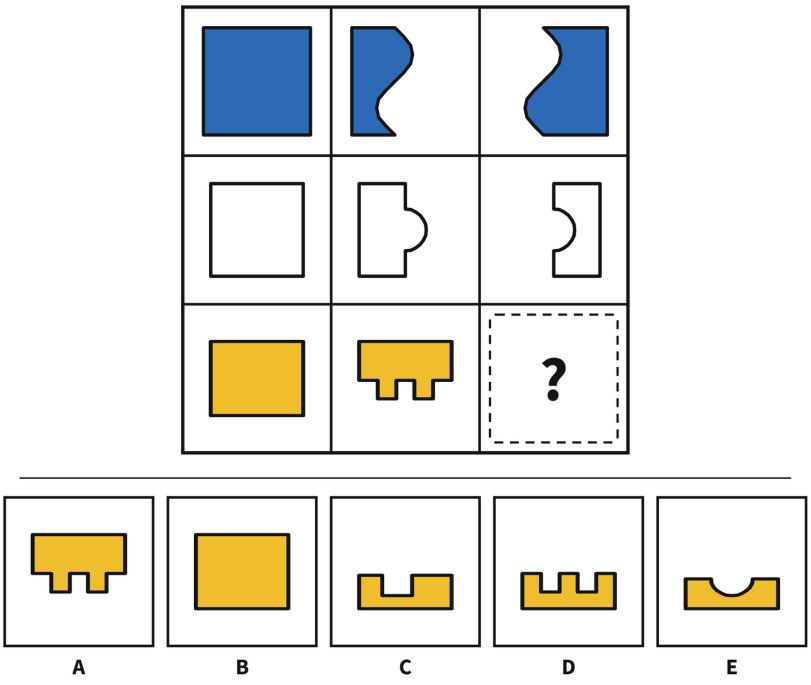
Spatial visualization · Question 15

From the workbook, p. 105



Spatial visualization · Question 16 · Stretch question

From the workbook, p. 106



Answer key

Question 1 · Pattern completion · Practice 4 · From the workbook, p. 25

Answer B. The picture is a checkerboard: the colors take turns along every row. Continue the squares into the white box so every square lines up with its neighbors and the colors keep their order. The correct patch has to pick up the colors that touch the box. For example, along its top edge the main colors go yellow, blue, yellow. Choice B is the only patch that does this on every edge. Choice A has the two colors on the wrong squares. Choice C has one square in the wrong color. Choice D has one square in the wrong color and also has squares that are too small. Choice E has one square in the wrong color and also has the two colors on the wrong squares.

Question 2 · Pattern completion · Practice 5 · From the workbook, p. 26

Answer E. The two halves of the picture are mirror images: fold the page along the dashed line and every shape on the right lands exactly on its partner on the left. Find the part of the left side that matches the white box and flip it like a mirror. Choice E is the only patch that matches. Choice A copies the shape without flipping it and changes its color. Choice B flips the shape upside down instead of side to side, and changes its color. Choice C flips the shape upside down instead of side to side. Choice D changes the color of one shape.

Question 3 · Pattern completion · Practice 7 · From the workbook, p. 27

Answer E. The picture is a pinwheel: slices spread out from one center point, and the colors take turns going around. Extend each slice edge from the outside of the white box back toward the center point; the edges must keep pointing at the center. The correct patch has to pick up the colors that touch the box. For example, down its left edge the main colors go blue, yellow. Choice E is the only patch that does this on every edge. Choice A comes from the other side of the pinwheel and also has slices that are too wide, so its slice edges are missing or in the wrong places. Choice B has the slice colors in the wrong places. Choice C comes from the other side of the pinwheel and has the slice colors in the wrong places. Choice D comes from the other side of the pinwheel, so the slices lean the wrong way.

Question 4 · Pattern completion · Practice 14 · From the workbook, p. 30

Answer C. The picture has three straight bands that cross each other. Each band keeps its color, width, and direction all the way across. Take one band at a time. Find where it touches one side of the white box and where it comes out on the other side, and picture a straight path between those two spots. The patch must show that band along that path, with the same color and width. Then do the same for the next band. The correct patch has to pick up the colors that touch the box. For example, down its left edge the main colors go white, yellow, white, blue. Choice C is the only patch that does this on every edge. Choice A leaves out one of the yellow bands. Choice B leaves out one of the yellow bands and also moves the blue band so it no longer lines up. Choice D tilts one of the yellow bands at the wrong angle and also moves the blue band so it no longer lines up. Choice E moves the blue band so it no longer lines up.

Answer key

Question 5 · Reasoning by analogy · Practice 6 · From the workbook, p. 54

Answer E. In the top row, the big shape becomes small and the small shape becomes big. They stay in the same places. Trade the sizes in the bottom picture the same way. The missing picture is a small blue star and a yellow heart: choice E. Choice A leaves both sizes unchanged. Choice B puts the shapes in each other's places and makes the heart too small. Choice C has the wrong color (yellow) and the wrong size (too small). Choice D shrinks the left shape but forgets to grow the right one.

Question 6 · Reasoning by analogy · Practice 8 · From the workbook, p. 55

Answer B. In the top row, the picture turns a quarter turn to the right (clockwise). Turn the bottom picture the same amount in the same direction. The missing picture is a blue trapezoid with its wide side at the bottom, and a black circle: choice B. Choices A and E each have the wrong direction, the wrong position and the wrong color (yellow). Choice C turns the wrong way. Choice D turns correctly but changes the color.

Question 7 · Reasoning by analogy · Practice 10 · From the workbook, p. 56

Answer E. In the top row, the outside shape and the inside shape trade places. Each color stays where it was: the outside keeps the outside color. Make the two shapes in the bottom picture trade places the same way. The missing picture is a big yellow hexagon and a small blue square: choice E. Choice A leaves the shapes where they were. Choice B changes only the big shape. Choice C trades the shapes but also trades the colors. Choice D trades the colors instead of the shapes.

Question 8 · Reasoning by analogy · Practice 12 · From the workbook, p. 57

Answer B. In the top row, two things happen: the color moves from the bottom half to the top half, and it switches from yellow to blue. Make the same change to the shape in the bottom row. The missing picture is a circle with the top half blue and the other half white: choice B. Choice A changes the color but forgets to move it to the other half. Choice C changes the color but moves it to a half that runs the wrong way. Choice D makes no change at all. Choice E moves the colored half but forgets to change its color.

Answer key

Question 9 · Serial reasoning · Practice 2 · From the workbook, p. 78

Answer B. Every row and every column has one hexagon, one diamond, and one moon. The bottom row is missing the hexagon. The missing picture is a yellow hexagon: choice B. Choice A repeats a shape from the bottom row and has the wrong color. Choice C has the wrong shape (a moon) and the wrong color (white). Choices D and E each repeat a shape that is already in the bottom row.

Question 10 · Serial reasoning · Practice 5 · From the workbook, p. 80

Answer D. Going across each row, the box empties one step each time. Each row keeps its own color. The bottom row goes three steps, then two steps, so the missing box is filled one step. The missing picture is a box filled one step with black: choice D. Choice A goes the wrong way and fills up instead. Choice B has emptied too far. Choice C is filled the right amount but has the wrong color. Choice E has not emptied far enough.

Question 11 · Serial reasoning · Practice 11 · From the workbook, p. 83

Answer B. Two rules work at the same time. Every row and every column has each of the three shapes once, and every row and every column has each of the three colors once. The bottom row still needs the diamond and still needs white. The missing picture is a white diamond: choice B. Choice A repeats a shape from the bottom row. Choice C uses the shape and color of the first box in the bottom row instead of the missing ones. Choice D has the right shape but the wrong color. Choice E repeats a color from the bottom row.

Question 12 · Serial reasoning · Practice 13 · From the workbook, p. 84

Answer C. Two things change at every step across each row. The small circle moves to the next corner clockwise, and the arrow in the middle turns a quarter turn to the left. Each row starts in its own place. Move the small shape one more corner and turn the arrow one more quarter turn from the middle box of the bottom row. The missing picture is a box with the black circle in the bottom-right corner and a yellow arrow pointing down in the middle: choice C. Choice A moves the small shape but forgets to turn the arrow. Choice B turns the arrow but forgets to move the small shape. Choice D has the wrong direction and the wrong color (blue). Choice E copies the box before it.

Answer key

Question 13 · Spatial visualization · Practice 2 · From the workbook, p. 101

Answer E. In each row, the first two pictures are put together, one on top of the other, to make the third picture. Put the first two pictures of the bottom row together. The missing picture is the spokes pointing down-left and up-left: choice E. Choice A puts a part of the second picture in the wrong place. Choice B adds a part from another row that is not in these two pictures. Choice C shows only the first picture. Choice D shows only the second picture.

Question 14 · Spatial visualization · Practice 6 · From the workbook, p. 103

Answer B. In each row, the first two pictures are two halves of one shape. They can come in either order, but each half is drawn on the side of its box where it belongs in the whole shape (a left half on the left, a top half at the top). Slide them together and they make the whole shape in the third box, with each half keeping its color. Join the two halves in the bottom row. The missing picture is a yellow pentagon: choice B. Choice A shows only one half. Choice C joins the halves but changes the color. Choice D has the wrong size (too big) and the wrong color (blue). Choice E has only one half of the shape and the wrong color (blue).

Question 15 · Spatial visualization · Practice 9 · From the workbook, p. 105

Answer C. The dashed line is a fold. In the top row, fold the paper along the dashed line and press: every shape is printed on the other side as a mirror image, in the matching spot. Do the same with the bottom-left picture: each shape appears again on the other side of the line, flipped left to right. The missing picture is the shapes on both sides of the fold line, each one a mirror image of its partner: choice C. Choice A slides the shapes across without flipping them, and forgets one. Choice B slides the shapes across without flipping them like a mirror. Choice D forgets to copy one of the shapes. Choice E does not fold anything over.

Question 16 · Spatial visualization · Practice 12 · From the workbook, p. 106

Answer D. In each row, the first picture is a whole shape. It is cut into two pieces: the second picture is one piece and the third picture is the other piece. Each piece stays in the spot where it was in the whole shape. Picture the middle piece of the bottom row sitting inside the whole rectangle; the missing piece fills the part that is left. The missing picture is the piece that has an edge with two square dents to fit against the middle piece: choice D. Choice A copies the middle piece instead of finding the piece that fits with it. Choice B shows the whole rectangle instead of the missing piece. Choice C has an edge with a square dent, which almost fits but does not match the middle piece. Choice E has an edge with a round dent, which does not match the middle piece.

Optional next step

Explore the Level D workbook

These puzzles come from the four skill builders. The workbook also includes a mixed review and two complete 48-question practice tests.

FOR GRADES 3 AND 4

NNAT3 Level D Practice Test Workbook

172 original questions in full color: four skill builders, a mixed review and two 48-question practice tests, with every answer explained.

See real pages and the full book:
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On paper, point a phone camera at the square code or type the address. On a screen, select the address.

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