

Non-Verbal Reasoning Mock Test 3 Answers

Q#	Answer	Explanation
1	C	The pentagon keeps its shape, its size and its position; only the way it is shaded changes, from solid black to hatching. The star must be hatched in the same way. A is grey and B is white, which are shadings the example never uses; D is covered in dots rather than lines; and E is still solid black and has only been turned.
2	A	The trapezium has been flipped over top to bottom, as if a mirror were lying underneath it. The triangle must be flipped the same way, so its right angle stays on the same side but moves from the bottom to the top. B is turned upside down instead, which also swaps left and right, and C and D are quarter turns.
3	D	The shape on the outside stays exactly as it was and the small black shape inside it grows. The hexagon must keep its size while its little square grows by the same amount. In A everything has grown, the hexagon included; in B only the hexagon has grown and the square has not; C has dropped the square to the bottom instead of growing it; and E has changed its colour rather than its size.
4	B	The pentagon is shaded over exactly half of itself, and it is the left-hand half. The hexagon must be shaded over its left-hand half too. A shades the right, C the top and D the bottom - each of them half the shape, but the wrong half - and E is shaded all over.
5	A	Nothing about the star changes except where it sits: it moves up and to the right, into the top right corner of its box. The trapezium must make the same journey, unturned and unchanged. B, C and D move it into one of the other three corners, and E has turned it and left it in the middle.
6	E	The square is left alone and the dot inside it becomes a star. So the circle must keep its shape and hold a star instead of its dot. A has turned the wrong shape into a star - the one on the outside - and B has chosen the wrong shape altogether. C and D still hold a dot, one bigger and one grey.

7	C	The two shadings change places: the hatching moves from the outer shape to the inner one and the grey moves the other way. A has turned the hatching grey without sending the grey back, so both parts end up grey; B has made both parts dotted, which is a shading the example never uses; D is unchanged, because swapping black for white does nothing to hatching or grey; and E has only been turned.
8	D	Whatever the shape on the outside was, it becomes a circle, and everything else stays as it was - the shading, the size and the small black mark where it sits. A has turned the mark into a circle instead of the shape around it, B has chosen a square rather than a circle, and C and D have only grown or turned the kite.
9	B	The trapezium looks the same either way round, so the shading is the whole question: an upright mirror swaps left and right, so the shaded half moves across to the right. A is a half turn, which would carry the shading across but stand the trapezium on its head as well.
10	D	The mirror lies flat under the triangle, so the reflection is the triangle flipped top to bottom - what was the highest corner becomes the lowest, and nothing moves left or right. A flips it the other way, and B is a half turn, which does both at once.
11	C	The circle looks the same however it is moved, so everything depends on the small black triangle. An upright mirror carries it straight across to the right at the same height, and turns the triangle itself over as it goes. A and B take it to the bottom, and D and E swing it round to the side.
12	E	A square and a cross both look the same whichever way up they are put, so only where the cross sits can be read. A mirror lying flat underneath lifts it straight up the page and leaves it just as far to the left. A sends it across to the right instead, B takes it diagonally across to the far corner, and C and D drop it to the bottom.

13	B	A square looks the same however it is moved, so the small black triangle is the whole question. The mirror runs from the bottom left up to the top right, and a slanting mirror like that swaps the across and up directions over: a mark near the top comes back out at the right. A uses the other diagonal and sends it to the left, C leaves it along the top, and D and E are turns rather than reflections.
14	D	The mirror runs from the top left down to the bottom right. It swaps the two marks over: the square at the top comes back on the left and the dot on the left comes back at the top. A uses the other diagonal, which leaves the square at the bottom and the dot on the right.
15	A	Two things are reflected at once, and both must be right. The dot crosses to the other top corner, and the shading, which runs from the bottom left corner to the top right, comes back running from the bottom right to the top left. B has the dot in the right corner but the shading unturned, and C is a half turn, which takes the dot to the bottom.
16	C	A hexagon looks the same after a sixth of a turn, so the white dot is the only guide. A mirror lying flat underneath drops the dot straight down the page and leaves it the same distance to the right. A carries it across to the left instead, and B does both, which is a half turn.
17	C	Every shape is a different shape and every one is grey, so neither of those can be what the four share. Four of them are a single shape and nothing else; C has a black dot inside it as well.
18	B	All five are hatched, so the shading is not the answer. Four of them are triangles with three sides, even though no two are the same triangle. B is a kite and has four sides.
19	D	Each picture is one shape holding a smaller black one, and no two pictures use the same pair. In four of them both shapes have four sides. In D the small black shape is a triangle, so it has three.
20	B	Count how many parts of each picture are shaded rather than left white. In four of them exactly one part is shaded - sometimes the shape outside, sometimes the mark inside. In B both are shaded: a grey circle holding a black dot.

21	C	The shading changes from one to the next and so does the mark inside, so neither of those is what the four share: the shape they are drawn in is a circle. C is drawn in a hexagon, which has six straight sides.
22	B	Four of these pictures are built entirely out of curves: circles, semicircles and dots, with not one straight side between them. B holds a small black square, which has four.
23	E	Add up the sides of both shapes in each picture. Four of them come to eight - four and four, five and three, four and four, three and five. E comes to nine, because a hexagon has six sides and a triangle three.
24	D	Every picture is a large shape holding one small black mark, so the number of things is not what tells them apart. In four of them the large shape is drawn with a dashed outline. D is drawn with a solid one.
25	B	The three in the box are shaded differently and one of them is turned, so neither the shading nor the angle is what they share: each has five sides. B is a pentagon too. A has six sides, C has four, D has none at all and E has three.
26	C	The three in the box are all different shapes, so the shape is not what they have in common: not one of them is shaded in any way. C is the only shape on the bottom row left completely white.
27	A	The shape on the outside is different every time, so it is not the shape: each picture is made of three parts - the outline and two black dots. A is a trapezium with two dots, so it is made of three parts too. D has four parts and B and E have two.
28	C	The shading, the outline and the mark inside all change from one to the next, so none of those is the answer: every one is drawn inside a square. C is a square as well. A is a rhombus, which is a square stood on its corner and is not the same shape at all.
29	D	Each picture in the box holds exactly two black marks inside a white shape, and the marks are never the same pair twice. D holds two black marks as well. A holds one, C holds one black and one white, and B and E hold none at all.

30	E	Add the sides of the two shapes in each picture: six and three, five and four, four and five - every one in the box comes to nine. E is a hexagon holding a triangle, which is six and three. A comes to eight, B to ten, C to seven and D to ten.
31	C	Both the shapes and which of them is hatched change from one to the next, so what the three share is the pair of shadings: one part hatched and one part grey, in either order. C is a grey trapezium holding a hatched square. A uses grey twice, B and D put black or white with the hatching, and E uses dots rather than hatching.
32	B	Every picture is a shape holding one mark, so counting the parts settles nothing. What the three in the box share is that both parts are shaded - grey, hatched or black - with no white anywhere. B is a grey kite holding a black star. The others all leave one part white.
33	B	Along each row the shape is turned an eighth of a turn anticlockwise - 45 degrees - and changes in no other way. The trapezium at the end of the bottom row must be turned one more eighth. A has turned twice as far, C turns the same amount the wrong way, D has not been turned at all and has shrunk instead, and E is a reflection rather than a turn.
34	D	Every row starts white, turns grey and then turns black: the shading gets one step darker each time and the shape never changes. The bottom row needs a black hexagon. A has gone back to white, B and C have taken up a pattern the square never uses, and E is the right shade but has grown.
35	C	Nothing about the shapes changes along a row - they simply climb the box, starting at the bottom, passing through the middle and finishing at the top. The hexagon must climb one more step. A falls back to the bottom, B and D move sideways instead of upwards, and E has grown without moving.
36	E	A pentagon looks exactly the same after a fifth of a turn, so the pentagon itself never seems to move: it is the small black mark that travels, one fifth of the way round the shape at each step. E takes the triangle one fifth further. A has gone two fifths on, B three fifths and C four fifths, which is one fifth short of the way back; and D has not moved at all, it has only grown.

37	B	In each row the middle picture is taken away from the first one, and the third shows what is left. Take the black triangle out of the kite and the kite is left on its own. A is the piece that was taken away rather than what is left, C still holds it, D has filled the kite in and E has borrowed the shape from the top row.
38	D	The third picture in each row keeps only what the first two do not share. Both hold the dot on the left, so the dot goes; the pentagon and the triangle each appear once, so both stay. A keeps everything, B keeps only what the two have in common, C keeps the wrong mark and E has thrown away too much.
39	B	Along each row the shape outside gets darker - white, then grey, then black - while the mark inside it stays white throughout. The bottom row needs a black kite with a white square still showing inside it. A has gone back to white, C has darkened the mark as well as the kite, D is hatched rather than black and E has only grown.
40	C	Each row loses the mark on the left and keeps everything else, so the pictures go from two marks, to one, to none at all. The bottom row must end with the pentagon empty. A has thrown the pentagon away and kept the dot, B has gained a mark instead of losing one, D has grown and E has been turned - and all three of those still hold the dot.
41	B	Every shape is a square, so the square itself cannot be what is being coded. The two holding a dot take P and the one holding a star takes Q, so the top letter is the mark inside. The white square takes X and the grey ones take Y, so the bottom letter is the shading. A white square holding a star is therefore QX.
42	D	Two different triangles share the letter P, so the top letter cannot be which shape it is - it is how many sides the shape has: three take P and four take Q. The grey shapes take X and the black one takes Y, so the bottom letter is the shading. The test shape is another triangle, so three sides and black: PY.

43	C	The top letter counts the dots: none takes D, one takes E and two take F. The hexagons take M and the pentagon takes N, so the bottom letter is the shape - and it cannot be the number of dots, because one hexagon and one pentagon both hold two. A pentagon with one dot is EN.
44	A	One shape is shaded over exactly half of itself and takes P; the two shaded all over take Q, so the top letter is how much of the shape is shaded rather than how dark it is. The curved shapes take X and the straight-sided pentagon takes Y. The test shape is a hexagon, which is straight-sided, shaded over half of itself: PY.
45	E	Each example is a different shape, so the top letter cannot be the shape itself: it is the size, with D the smallest, E the middle one and F the largest. The black shapes take M and the grey one takes N. The test shape is a star nobody has seen before, but it is the small size and it is grey, so DN.
46	C	The top letter is the dot: black takes P and white takes Q. A square and a kite share the letter X, so the bottom letter is not the shape but the number of sides - four take X and six take Y. The test shape is a trapezium, which has four sides, holding a white dot: QX.
47	A	Every example holds two dots, so counting them settles nothing. What changes is how many of the dots are filled in: two black takes P and one black takes Q. The pentagons take X and the hexagon takes Y, so the bottom letter is the shape outside. A hexagon with both dots black is PY.
48	D	The top letter is the small black shape inside: a dot takes D, a square takes E and a star takes F. It cannot be the shape outside, because two different hexagons both take D. The solid outline takes M and the dashed ones take N. The test shape holds a star and is drawn with a solid outline, so FM.