


Non-Verbal Reasoning 3

Read the following with your child:

1. This is a multiple-choice paper in which you have to mark your answer to each question on the separate answer sheet. You should mark only one answer for each question.
 2. Draw a firm line clearly through the rectangle next to your answer like this . If you make a mistake, rub it out as completely as you can and put in your new answer.
 3. There are four sections in this paper. Each section starts with an explanation of what to do followed by a worked example with the answer already marked on the answer sheet. Each section also contains some practice questions. Solutions to the example and practice questions are provided.
 4. Be sure to keep your place in the correct section on the answer sheet. Mark your answer in the box that has the same number as the question in the booklet.
 5. You may find some of the questions difficult. If you cannot do a question, **do not waste time on it but go on to the next**. If you are not sure of an answer, choose the one you think is best.
 6. **Work as quickly and as carefully as you can.**
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Familiarisation

Section 1

On the left of the example below are two shapes with an arrow between them. Decide how the second is related to the first. After these there is a third shape, then an arrow and then five more shapes. Decide which of the five shapes goes with the **third** one to **make a pair** like the two on the left. Its letter has been marked on your answer sheet.

Example

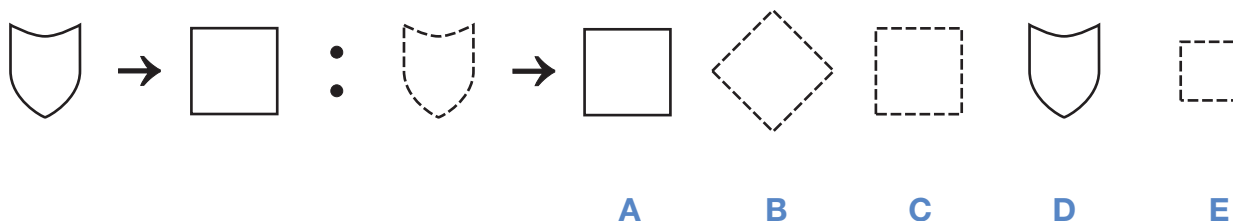


Answer: B

The shape rotates 180° but doesn't change size.

Now do the two practice questions below.

P1



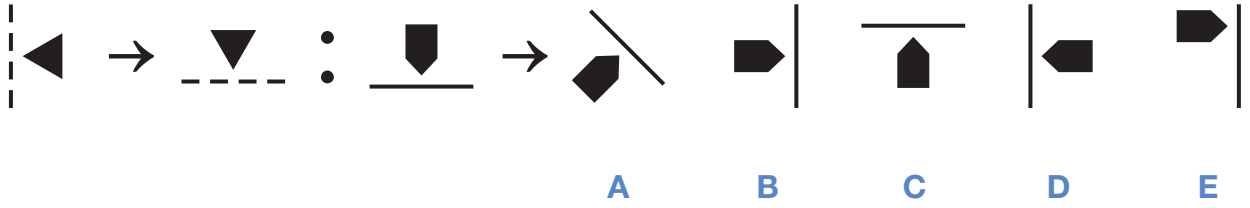
In the two shapes on the left, we can see that the shape changes from a shield to a square but the size remains the same and so does the line style. This means that the dashed shield will change to a dashed square of the same size. This makes **C** the correct answer.

P2

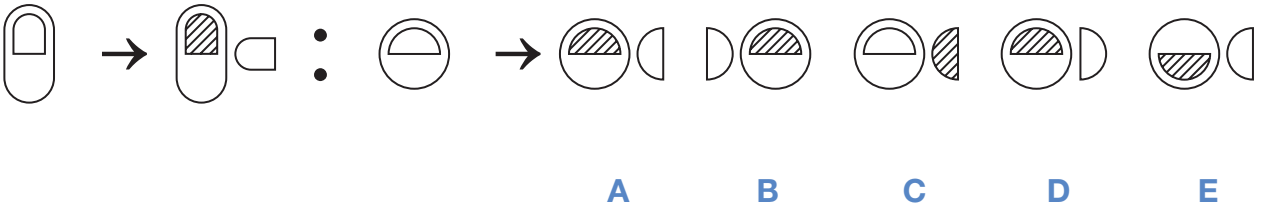


In the two shapes on the left, we can see that the shapes stay the same but there is a reversal of shading. The third shape is a small white 'keyhole' inside a black shaded six-sided figure so shape four must be the same but with reverse shading. Therefore, **A** is the correct answer.

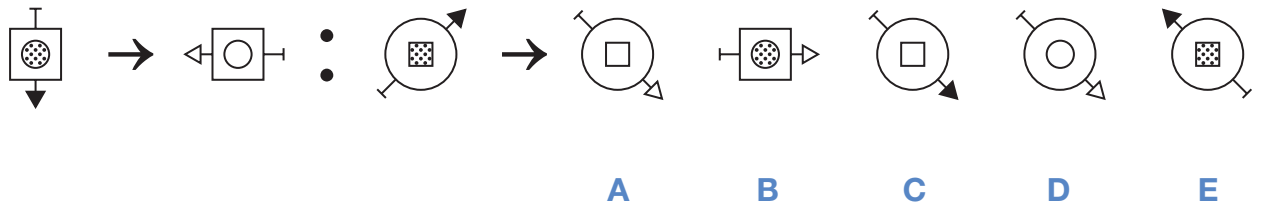
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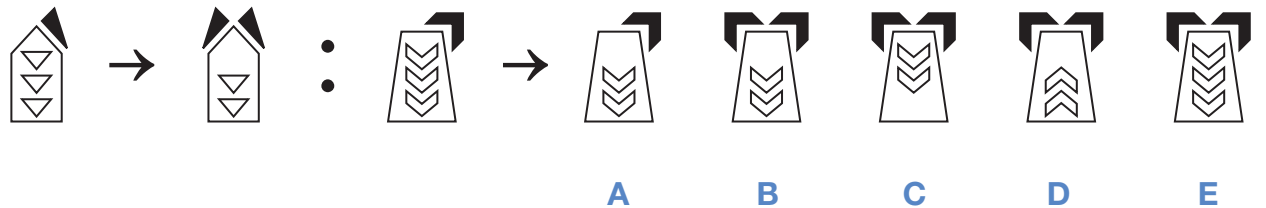
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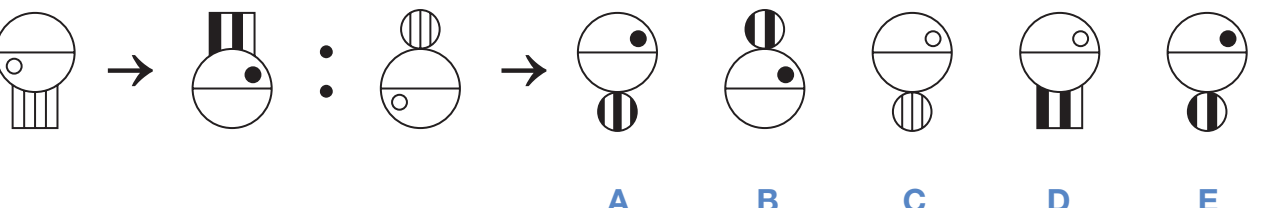
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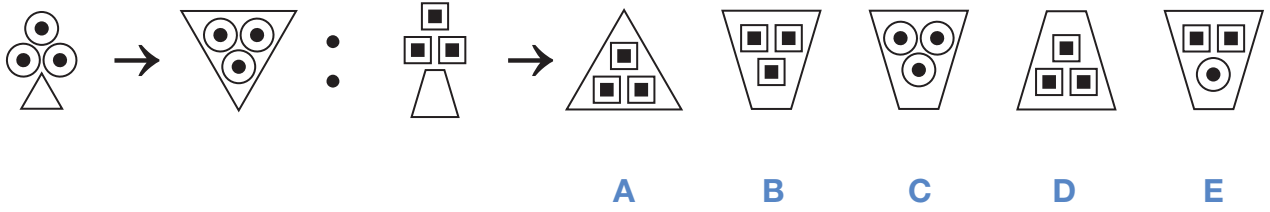
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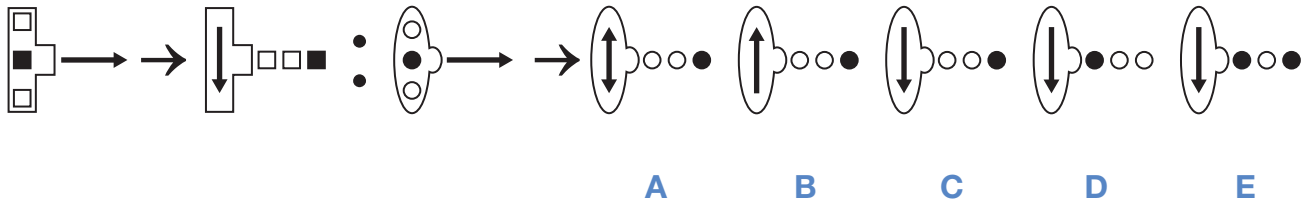
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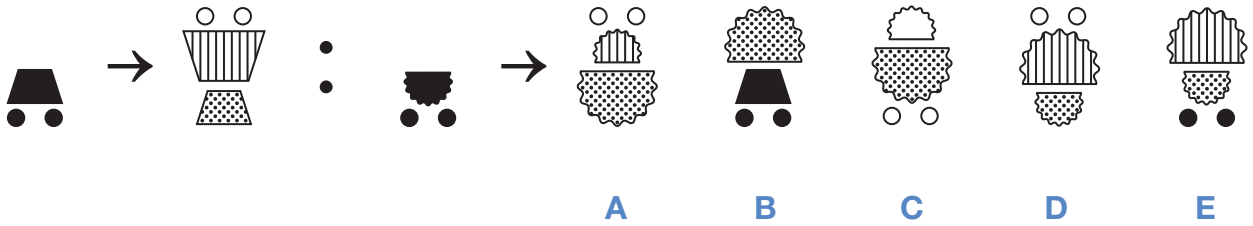
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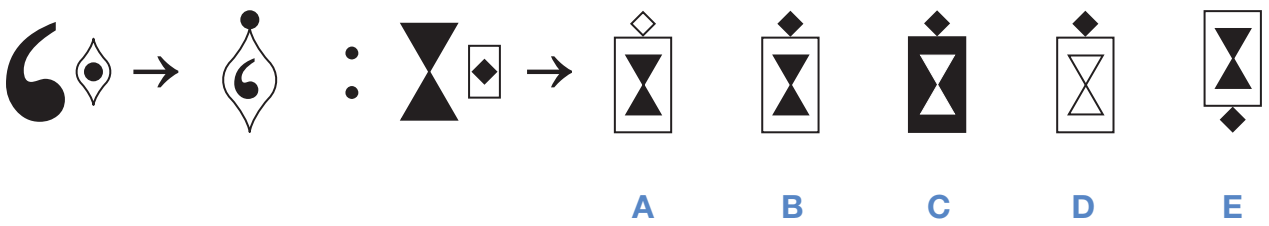
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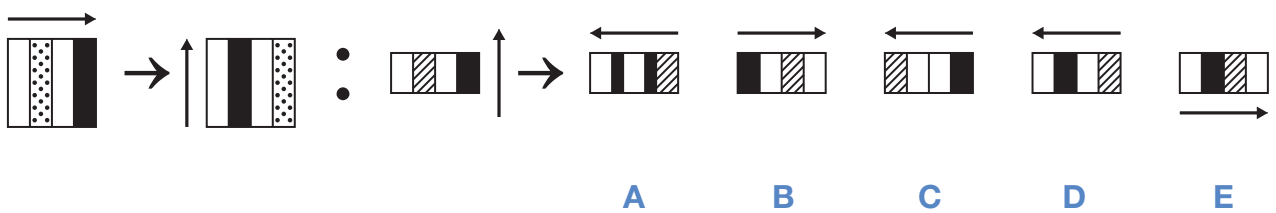
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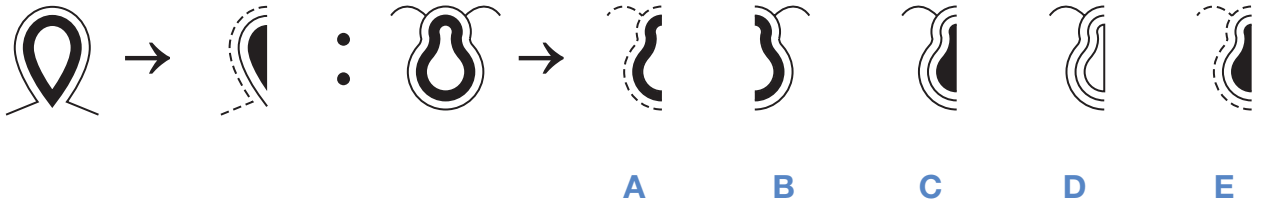
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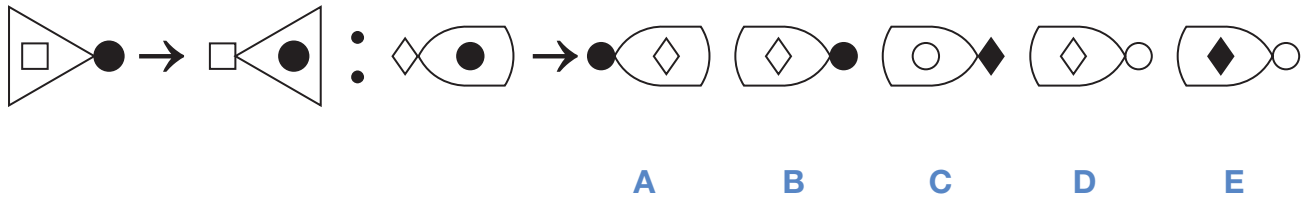
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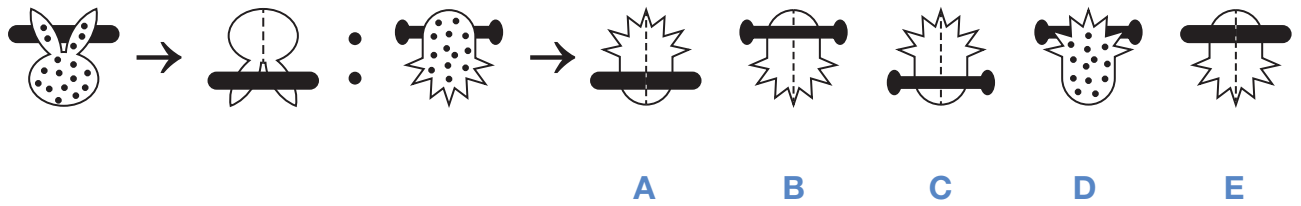
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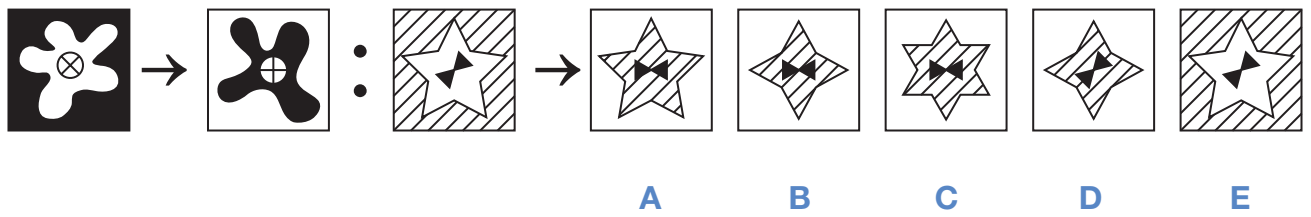
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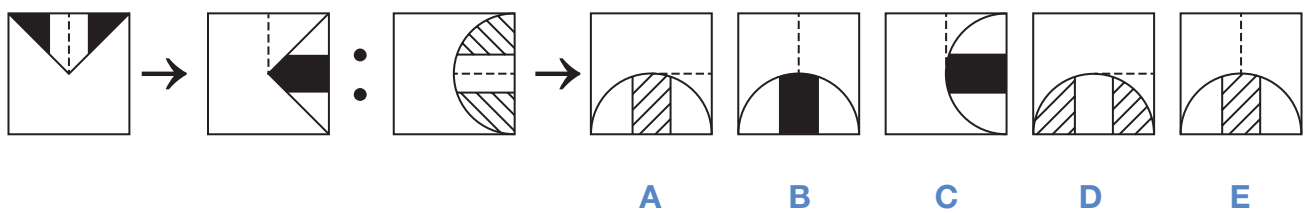
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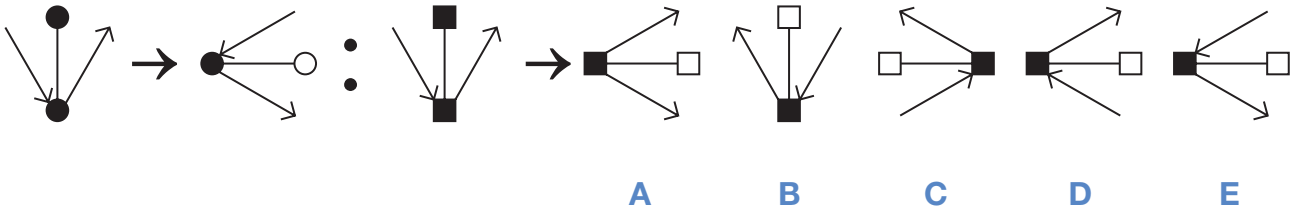
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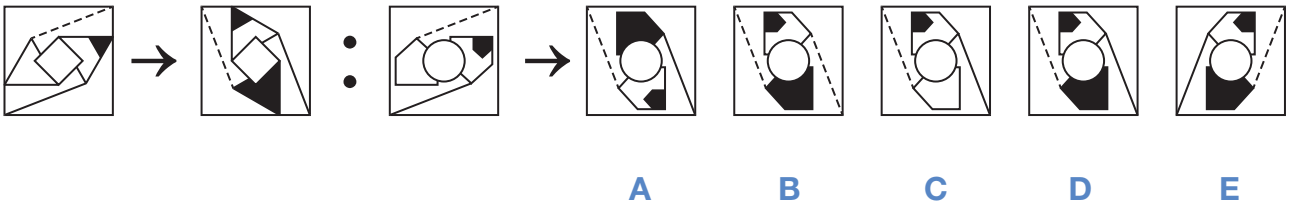
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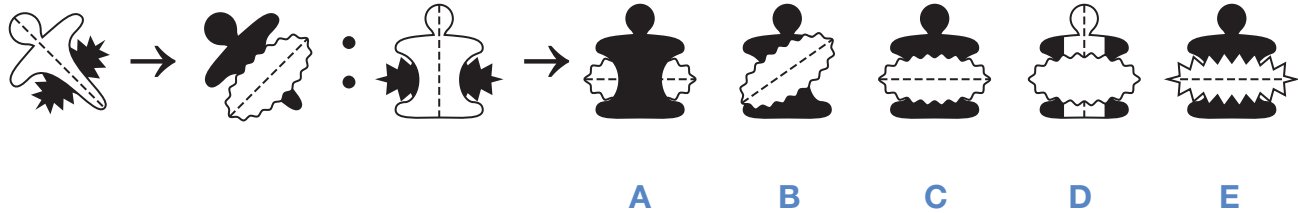
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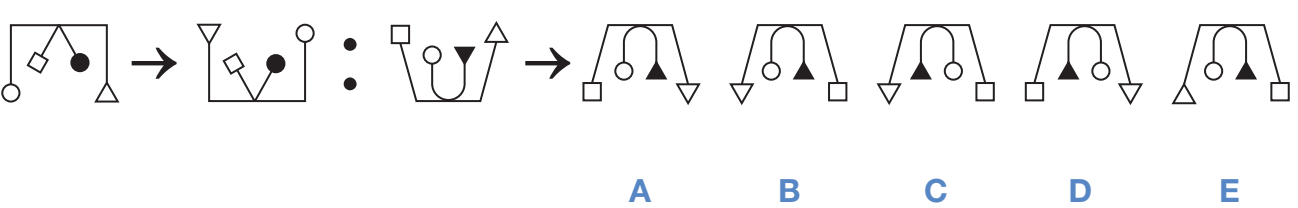
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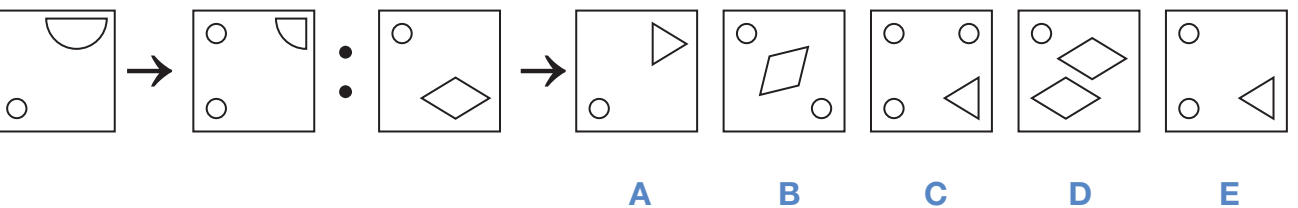
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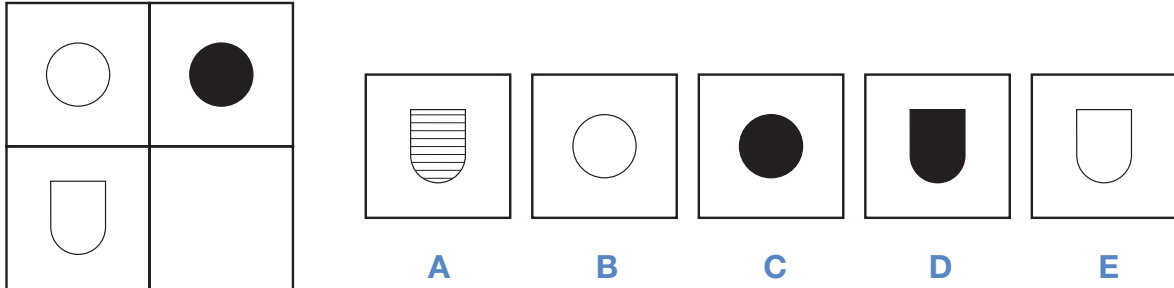
20



Section 2

In the big square on the left of the example below, one of the small squares has been left empty. One of the five figures on the right should fill the empty square. Its letter has been marked on your answer sheet.

Example

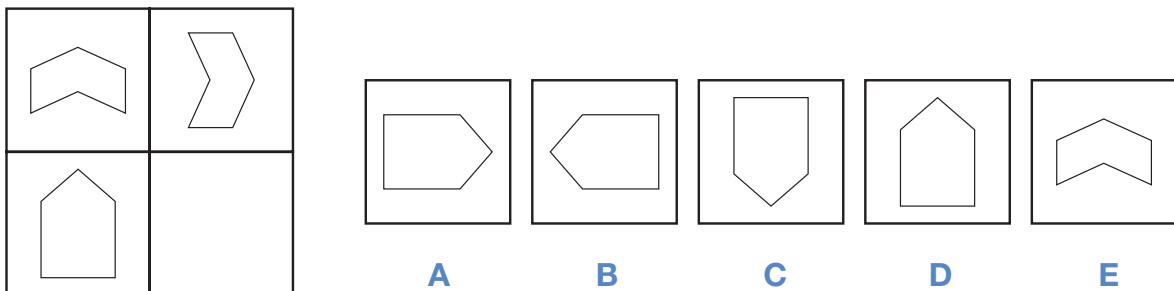


Answer: D

In the example above, the two shapes at the top are both the same, except that the circle on the left is white and the one on the right is black. In the bottom left, there is a white shield shape. To complete the pattern, the missing shape has to be a shield that is shaded black, so the correct answer must be **D**.

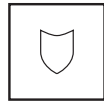
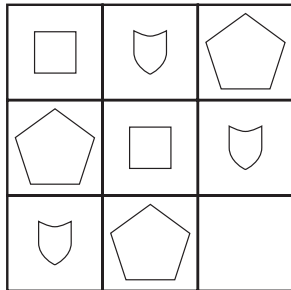
Now do the two practice questions below.

P1

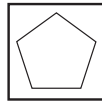


In this question, the shape in the top left is rotated 90° clockwise to produce the shape in the top right square. To complete the pattern in the same way, the shape in the bottom left square is also rotated 90° clockwise, so the correct answer must be **A**.

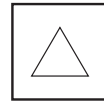
P2



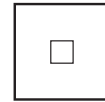
A



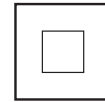
B



C



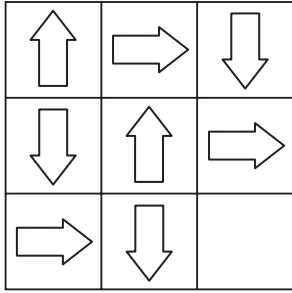
D



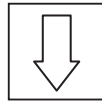
E

In this question, the three boxes presented either vertically or horizontally, contain a square, a pentagon and a shield. The same type of shape is always the same size. The bottom right box is blank. To complete the pattern in the same way the missing shape must be a square. We know that the square shapes must always be the same size, so the answer must be **E**.

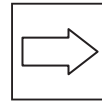
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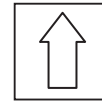
A



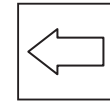
B



C

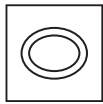
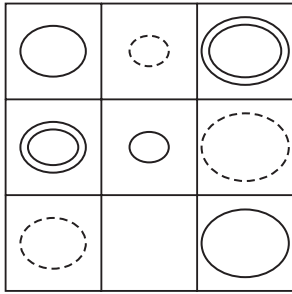


D

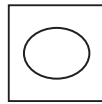


E

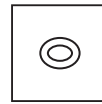
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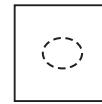
A



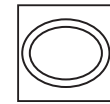
B



C

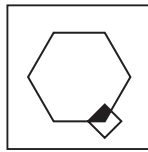
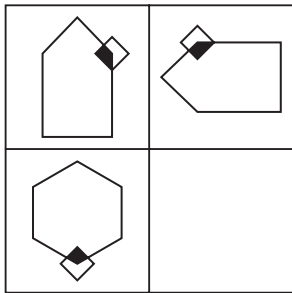


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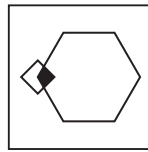


E

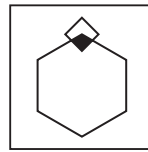
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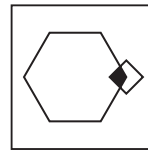
A



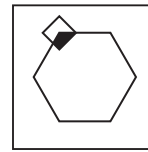
B



C

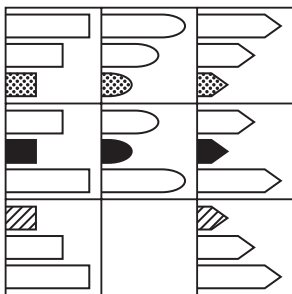


D



E

24



A



B



C

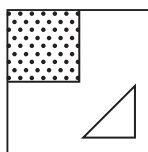
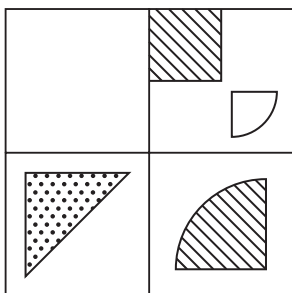


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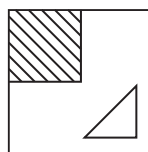


E

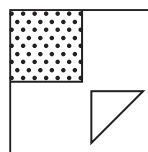
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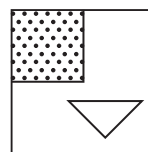
A



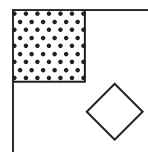
B



C

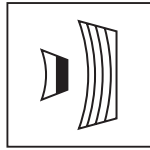
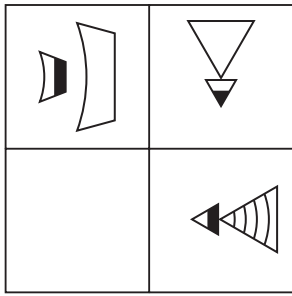


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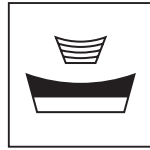


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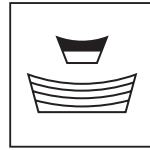
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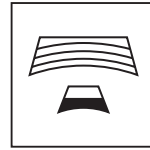
A



B



C

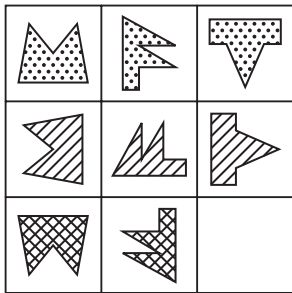


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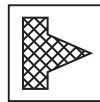


E

27



A



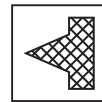
B



C

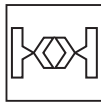
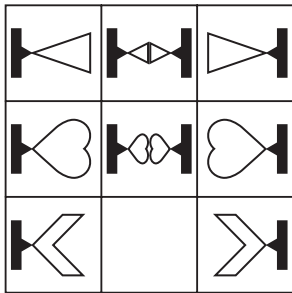


D



E

28



A



B



C

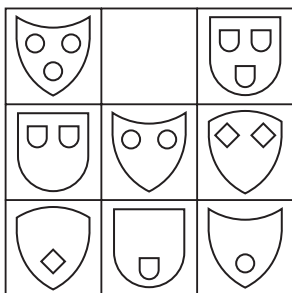


D



E

29



A



B



C

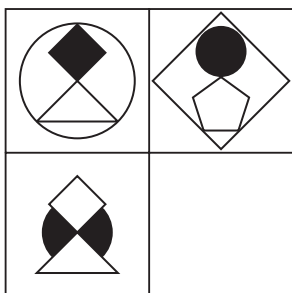


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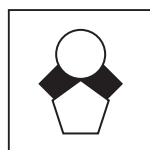


E

30



A



B



C

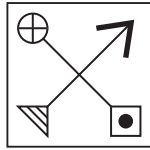
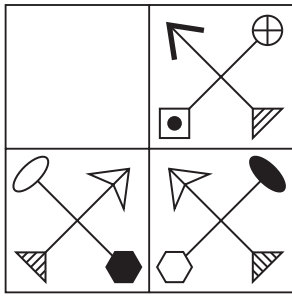


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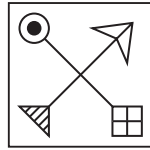


E

31



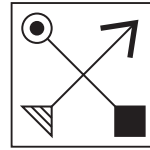
A



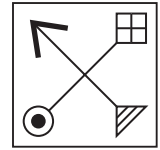
B



C

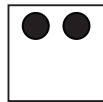
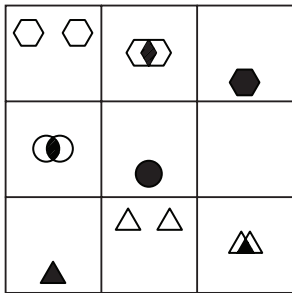


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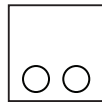


E

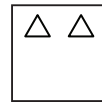
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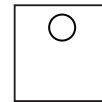
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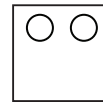
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C

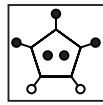
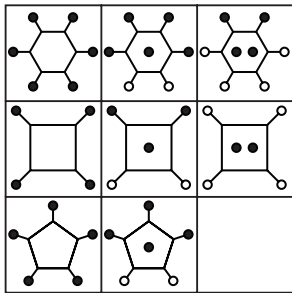


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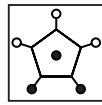


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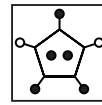
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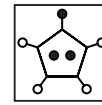
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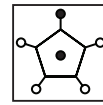
B



C

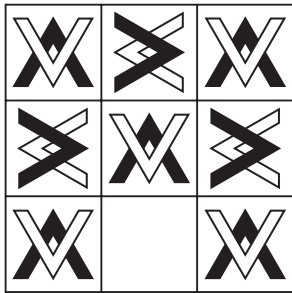


D



E

34



A



B



C

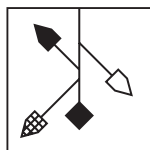
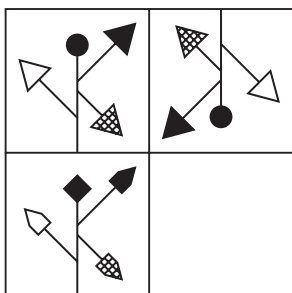


D

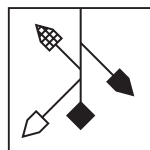


E

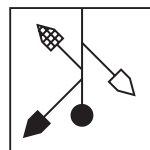
35



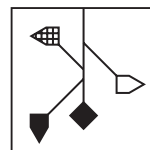
A



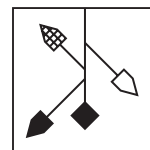
B



C

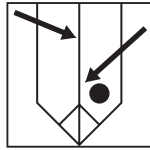
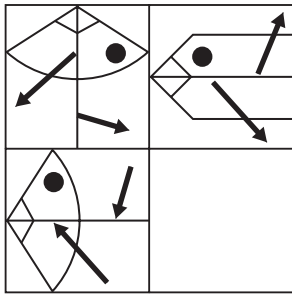


D

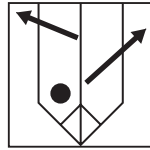


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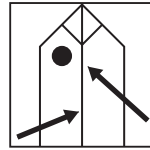
36



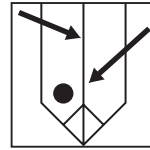
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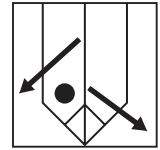
B



C

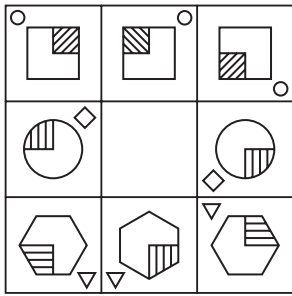


D



E

37



A



B



C

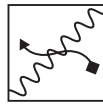
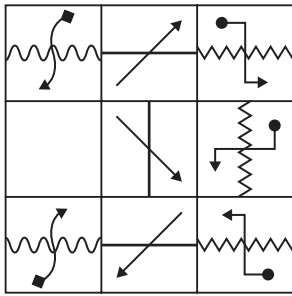


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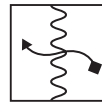


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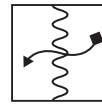
38



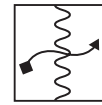
A



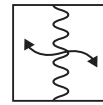
B



C

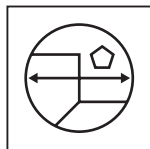
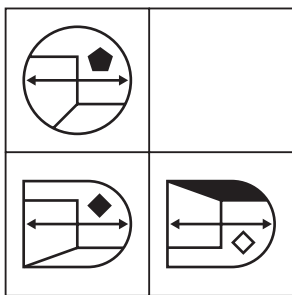


D

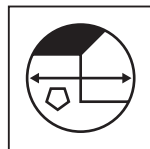


E

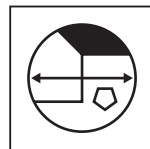
39



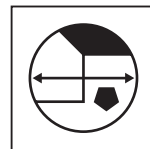
A



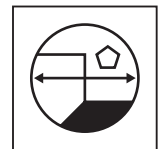
B



C

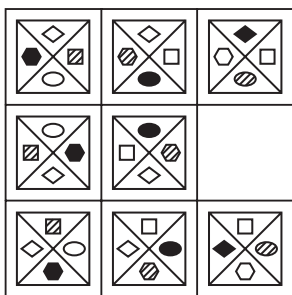


D

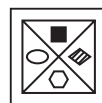


E

40



A



B



C



D



E

Section 3

To answer these questions you have to work out a code. In the boxes on the left are shapes and the code letters that go with them. The top letters mean something different to the bottom ones. You must decide how the letters go with the shapes. Then find the correct code for the **test shape** from the set of five codes on the right and **mark its letter on your answer sheet**. The examples below have been done for you and the answers marked on the answer sheet.

Example 1

<div style="display: flex; justify-content: space-between; align-items: center; height: 60px;"> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 auto;"></div> <div style="border: 1px solid black; padding: 2px; font-weight: bold;">X</div> </div> <div style="display: flex; justify-content: space-between; align-items: center; height: 30px;"> <div style="border: 1px solid black; width: 40px; height: 30px; margin: 0 auto;"></div> <div style="border: 1px solid black; padding: 2px; font-weight: bold;">S</div> </div>	<div style="display: flex; justify-content: space-between; align-items: center; height: 60px;"> <div style="border: 1px solid black; width: 40px; height: 40px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); margin: 0 auto;"></div> <div style="border: 1px solid black; padding: 2px; font-weight: bold;">Y</div> </div> <div style="display: flex; justify-content: space-between; align-items: center; height: 30px;"> <div style="border: 1px solid black; width: 40px; height: 30px; margin: 0 auto;"></div> <div style="border: 1px solid black; padding: 2px; font-weight: bold;">T</div> </div>	<div style="display: flex; justify-content: space-between; align-items: center; height: 60px;"> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div> <div style="border: 1px solid black; padding: 2px; font-weight: bold;">Y</div> </div> <div style="display: flex; justify-content: space-between; align-items: center; height: 30px;"> <div style="border: 1px solid black; width: 40px; height: 30px; margin: 0 auto;"></div> <div style="border: 1px solid black; padding: 2px; font-weight: bold;">S</div> </div>
---	---	---

TEST SHAPE

Y	X	Y	X	X
T	T	S	S	Y
A	B	C	D	E

Answer: B

In the example above, both squares have a Y at the top but the circle has an X, so the top code must be for shape. Both white shapes have an S at the bottom, but the shaded shape has a T, so the bottom code must be for shading. The test shape is a shaded circle so its code letters must be X for circle and T for shading, and **B** has been marked on the answer sheet. Now look at the second example:

Example 2

<div style="display: flex; justify-content: space-between; align-items: center; height: 60px;"> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 auto;"></div> <div style="border: 1px solid black; padding: 2px; font-weight: bold;">M</div> </div> <div style="display: flex; justify-content: space-between; align-items: center; height: 30px;"> <div style="border: 1px solid black; width: 40px; height: 30px; margin: 0 auto;"></div> <div style="border: 1px solid black; padding: 2px; font-weight: bold;">G</div> </div>	<div style="display: flex; justify-content: space-between; align-items: center; height: 60px;"> <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <div style="width: 10px; height: 10px; background-color: black; border-radius: 50%; margin: 0 auto;"></div> </div> <div style="border: 1px solid black; padding: 2px; font-weight: bold;">N</div> </div> <div style="display: flex; justify-content: space-between; align-items: center; height: 30px;"> <div style="border: 1px solid black; width: 40px; height: 30px; margin: 0 auto;"></div> <div style="border: 1px solid black; padding: 2px; font-weight: bold;">H</div> </div>	<div style="display: flex; justify-content: space-between; align-items: center; height: 60px;"> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> <div style="width: 8px; height: 8px; background-color: black; border-radius: 50%; margin: 0 4px;"></div> <div style="width: 8px; height: 8px; background-color: black; border-radius: 50%; margin: 0 4px;"></div> </div> <div style="border: 1px solid black; padding: 2px; font-weight: bold;">M</div> </div> <div style="display: flex; justify-content: space-between; align-items: center; height: 30px;"> <div style="border: 1px solid black; width: 40px; height: 30px; margin: 0 auto;"></div> <div style="border: 1px solid black; padding: 2px; font-weight: bold;">I</div> </div>
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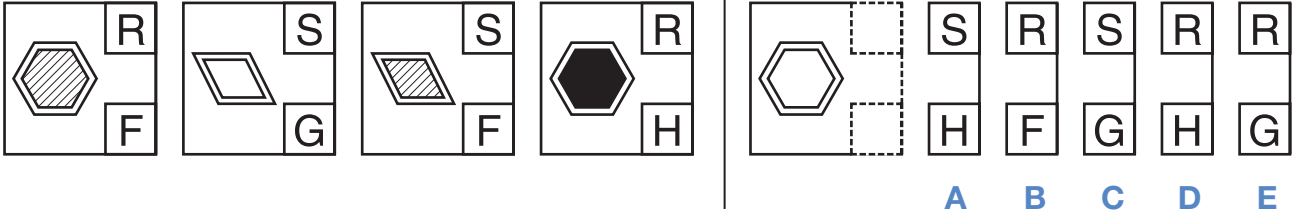
TEST SHAPE

N	M	N	M	N
G	G	I	H	H
A	B	C	D	E

Answer: A

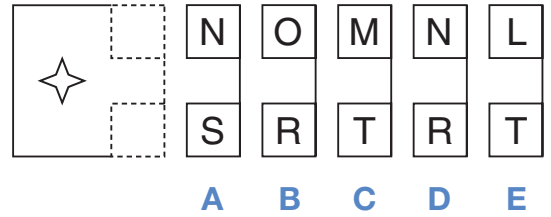
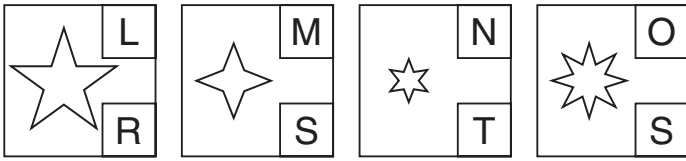
Both circles have an M at the top but the triangle has an N, so the top code must be for shape. The bottom code letter is different for each shape so G, H and I must be the codes for no dot, one dot and two dots. The test shape is a triangle with no dots so its code letters must be N for triangle and G for no dots, and **A** has been marked on the answer sheet. Now do the practice question below. **Remember there is a new code for each question.**

P1

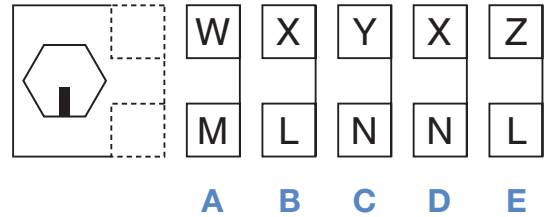
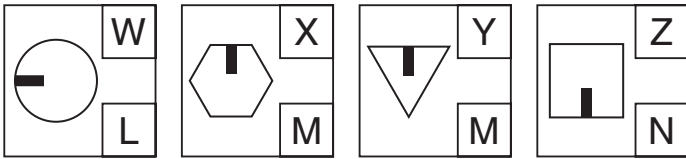


Both six-sided shapes have an R at the top and both four-sided shapes have an S, so the top code must be for the shape. The bottom codes show that both shapes with diagonal lines have an F, the unshaded shape a G and the shaded shape an H, so the bottom codes must be for the shading. The test shape is six-sided and unshaded so its code letters must be R for shape and G for shading, so **E** is the correct answer.

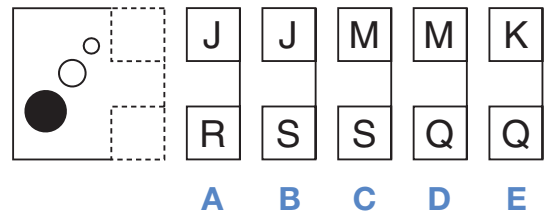
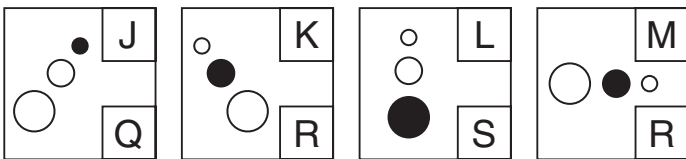
41



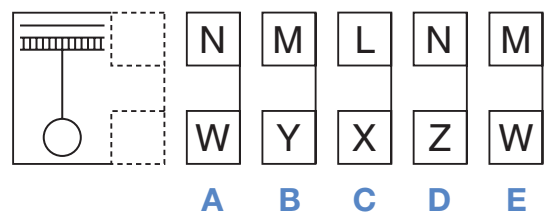
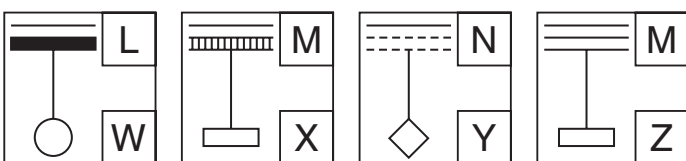
42



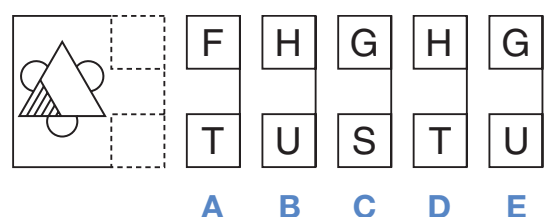
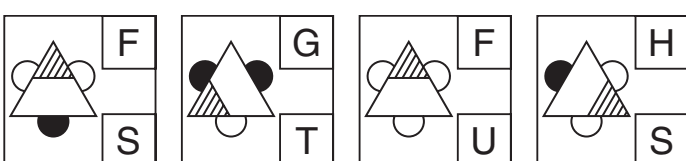
43



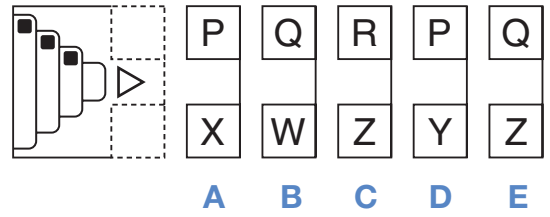
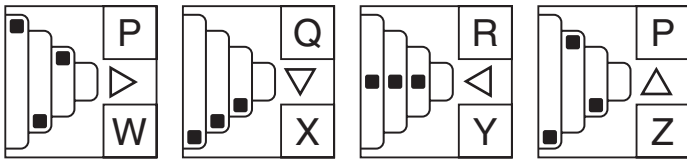
44



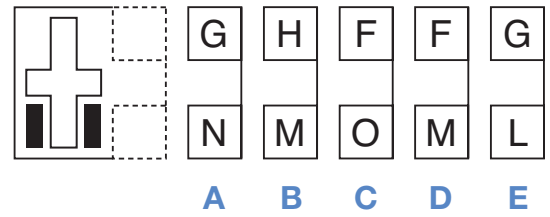
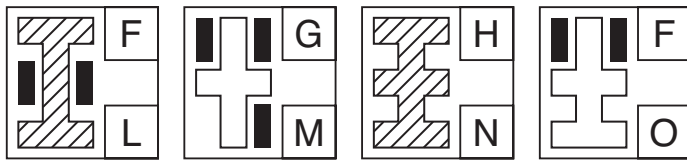
45



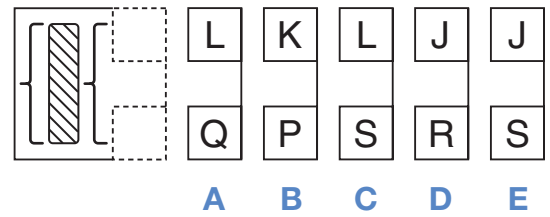
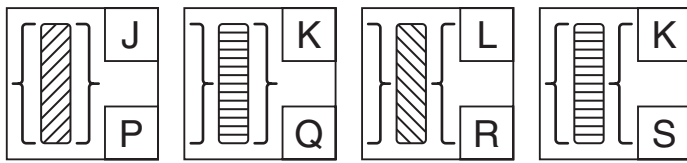
46



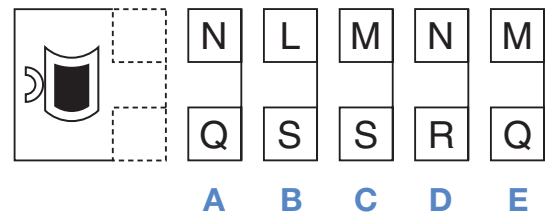
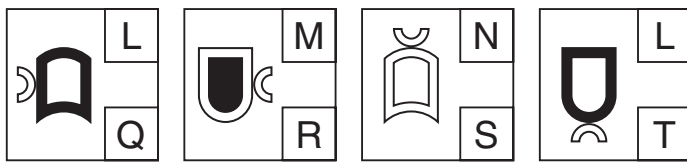
47



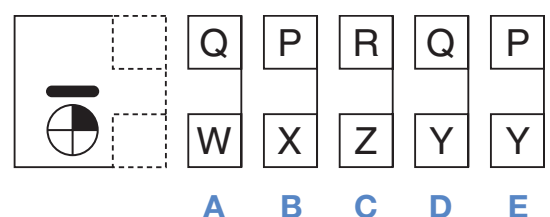
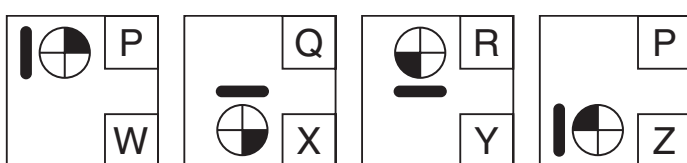
48



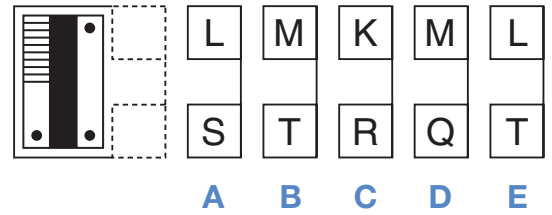
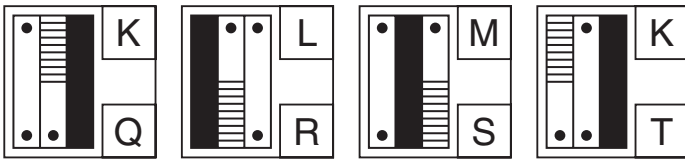
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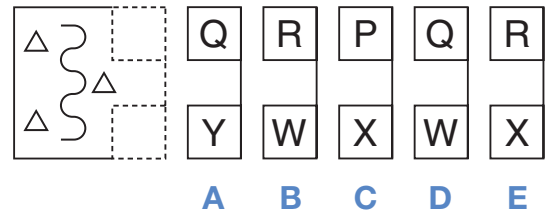
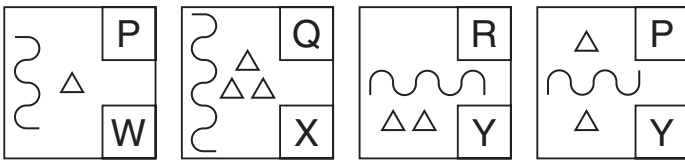
50



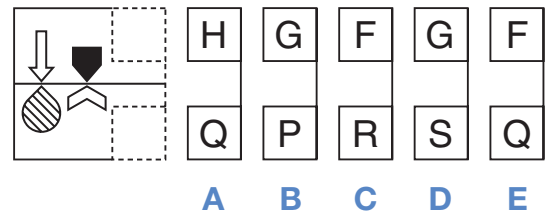
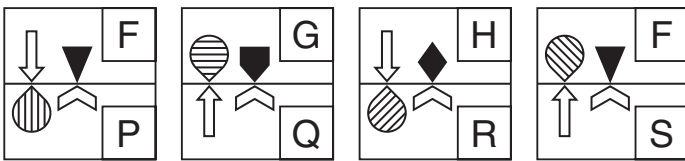
51



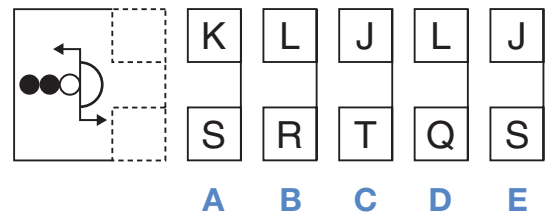
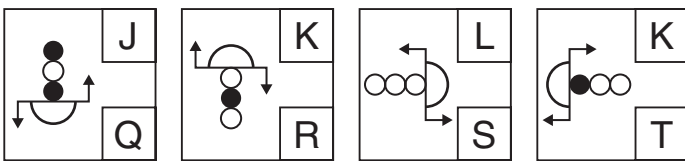
52



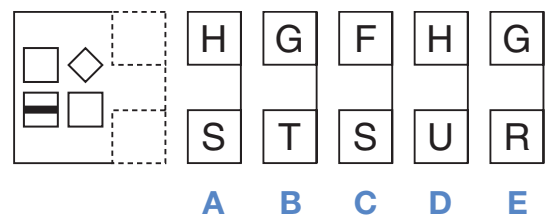
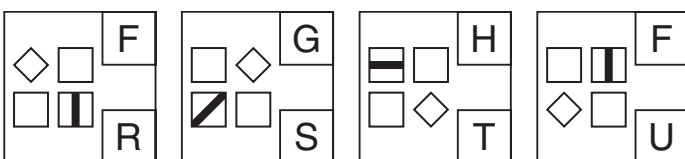
53



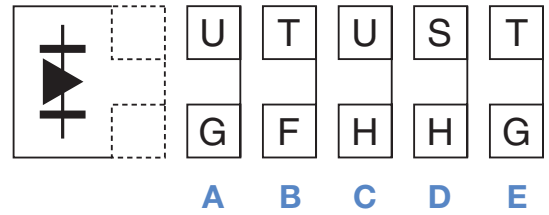
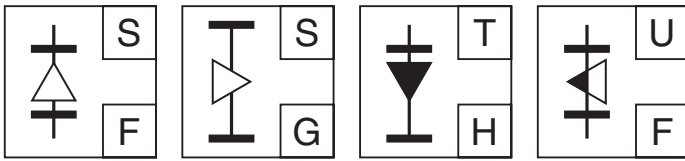
54



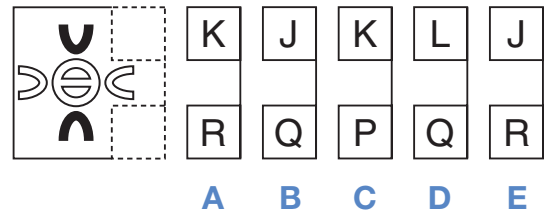
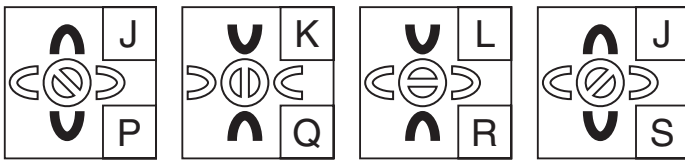
55



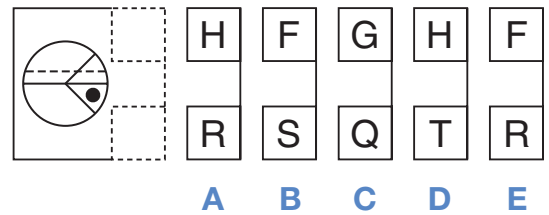
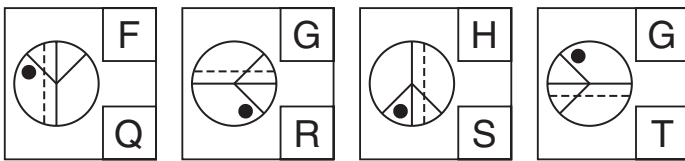
56



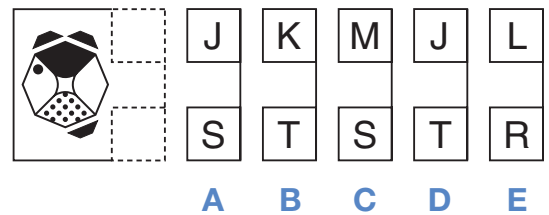
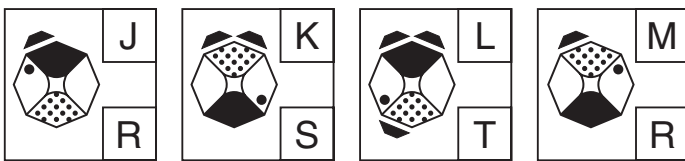
57



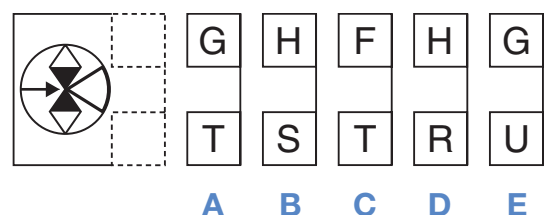
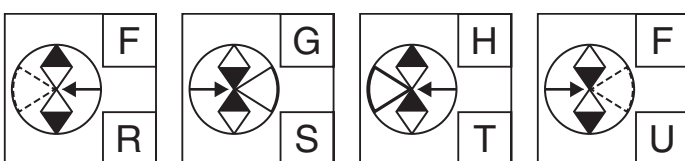
58



59



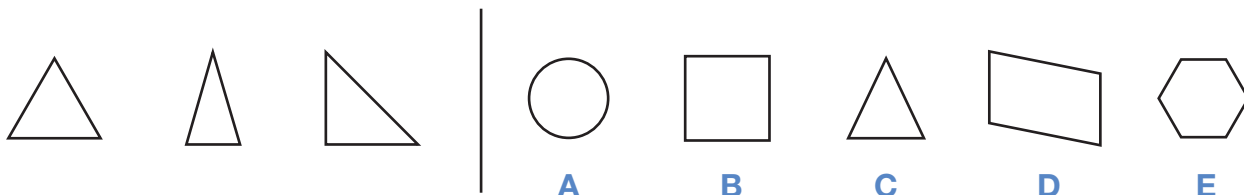
60



Section 4

On the left of the example below there are three figures that are alike. On the right there are five more figures: one of these is **most like** the three figures on the left. Its letter has been marked on your answer sheet.

Example

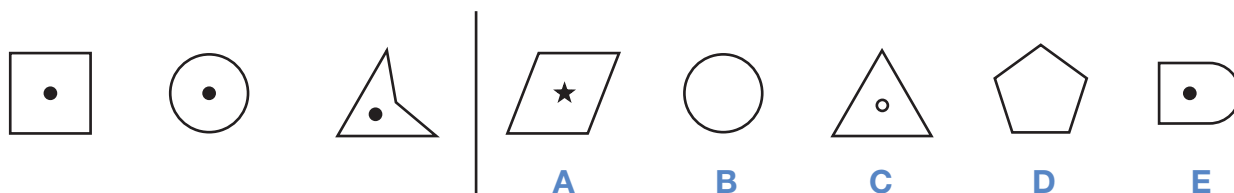


Answer: C

In the example above, all the figures on the left are triangles – they all have three sides. Therefore, **C** is the correct answer as it is the only one of the five shapes on the right that is a triangle.

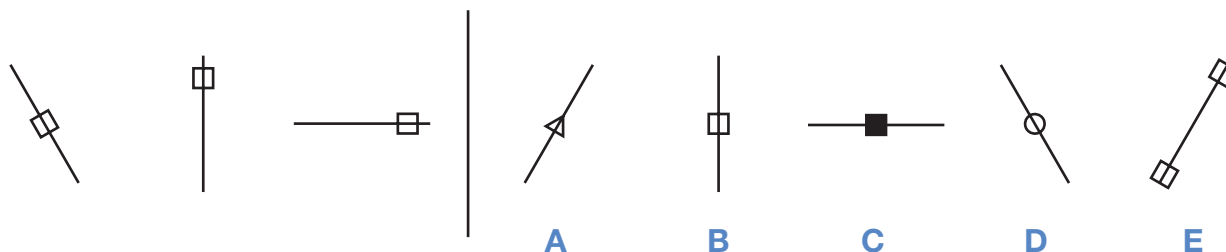
Now do the two practice questions below.

P1



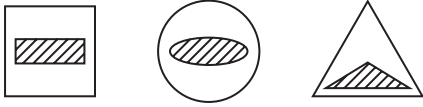
In this question, all the figures on the left have a black dot in their centre, irrespective of shape type. Therefore, **E** is the correct answer as it is the only shape on the right to have a black dot in its centre.

P2



In this question, the three figures on the left all feature a straight line with a small unshaded square positioned along the line. The answer cannot be A or D as the smaller shapes along the lines are not square. It cannot be E because the line features two small squares and it cannot be C as the small square is filled black. Therefore the correct answer can only be **B**.

61



A

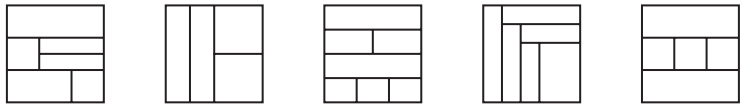
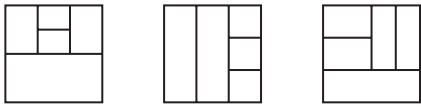
B

C

D

E

62



A

B

C

D

E

63



A

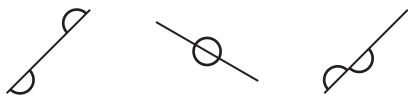
B

C

D

E

64



A

B

C

D

E

65



A

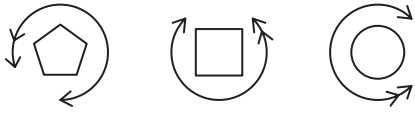
B

C

D

E

66



A

B

C

D

E

67



A

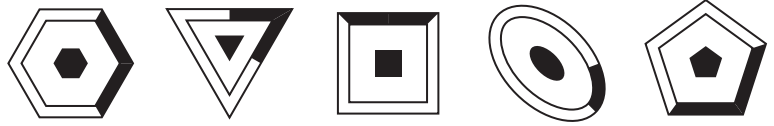
B

C

D

E

68



A

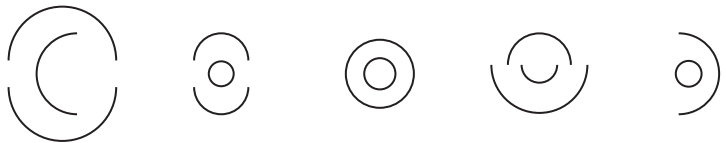
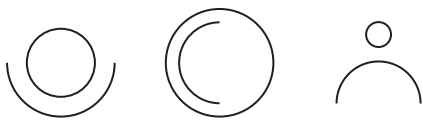
B

C

D

E

69



A

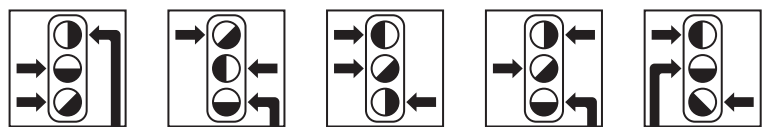
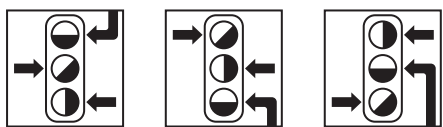
B

C

D

E

70



A

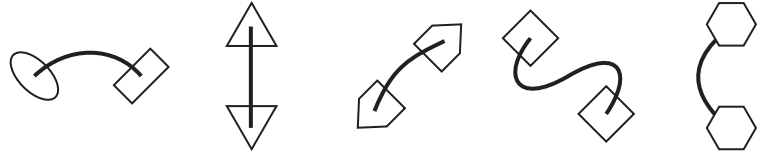
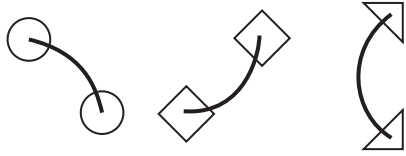
B

C

D

E

71



A

B

C

D

E

72



A

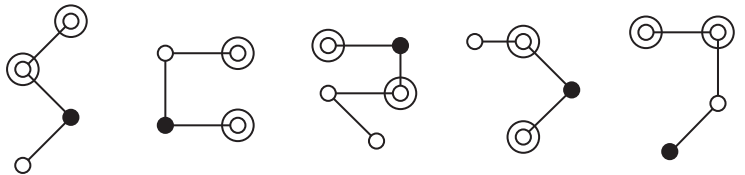
B

C

D

E

73



A

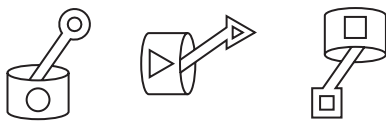
B

C

D

E

74



A

B

C

D

E

75



A

B

C

D

E

76



A

B

C

D

E

77



A

B

C

D

E

78



A

B

C

D

E

79



A

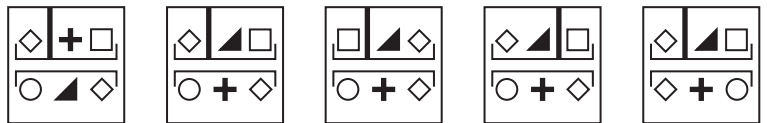
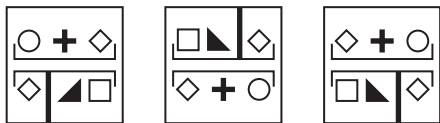
B

C

D

E

80



A

B

C

D

E

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