

Free RAF Aptitude Test

(With answers and explanations)

JobTestPrep invites you to a free practice session that includes a short selection of spatial reasoning questions, offered as part of our online RAF Aptitude Test Practice. Have a glimpse into the web's leading online psychometric preparation institute.

What does this test contain?

Five Spatial Reasoning Test questions, as they appear in the Royal Air Force Aptitude test.

GOOD LUCK!



Job Test Prep

Spatial Reasoning

Part I

How good are you in solving puzzles? We are certain that even if it is not your first choice for a favourite hobby, you are capable of solving three and four-part puzzles, which is exactly what the following test requires.

The aim of this test is to examine your spatial orientation skills in two-dimensional space. In each question you are given a set of three or four shapes followed by five shapes that serve as answer choices. All answer choices represent different assemblies of the primary shape set. You need to choose which shape represents the correct assembly according to the following rules:

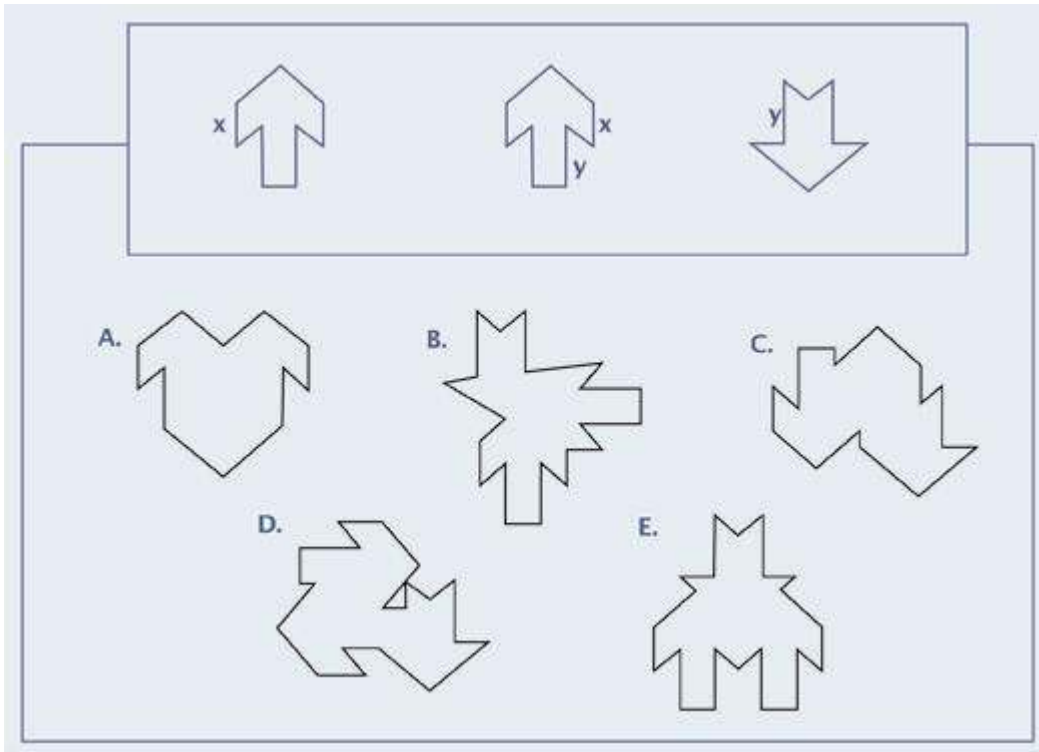
- 1. Each shape has at least one side that is labelled with a letter (x, y, or z). These labels mark the connection points of both shapes which are labelled with the same letter.**

It is important to mention that not all overlapping sides are labelled. As long as at least one is labelled, that's fine. Notice that while most shapes connect in a way that their labelled sides are attached together, some shapes connect in a way that one of the shapes' labelled sides is longer than the other one.

- 2. The shapes must maintain their original position – no rotation or inversion is required.**

That being the case, it is enough for you to identify even a single part of the puzzle which was rotated/inversed, in order to eliminate that answer choice.

1. Select the answer that combines the three shapes correctly:



A

B

C

D

E

Explanation

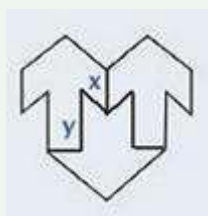
The parts of this puzzle are three arrows. Two of them look the same and point upwards; the third is a little bit different and points downwards.

Do we have to start connecting between the shapes right away? Not at all. Look at the answer choices and notice that shapes B and D include arrows pointing sideways. These options can be eliminated, since the correct answer includes no rotations of the original parts. For the same reason option C is also eliminated: Note that it consists of two arrows heads facing downwards and only one arrow head facing upwards. We can tell again that at least one of the arrows was inverted, and that contradicts the instructions.

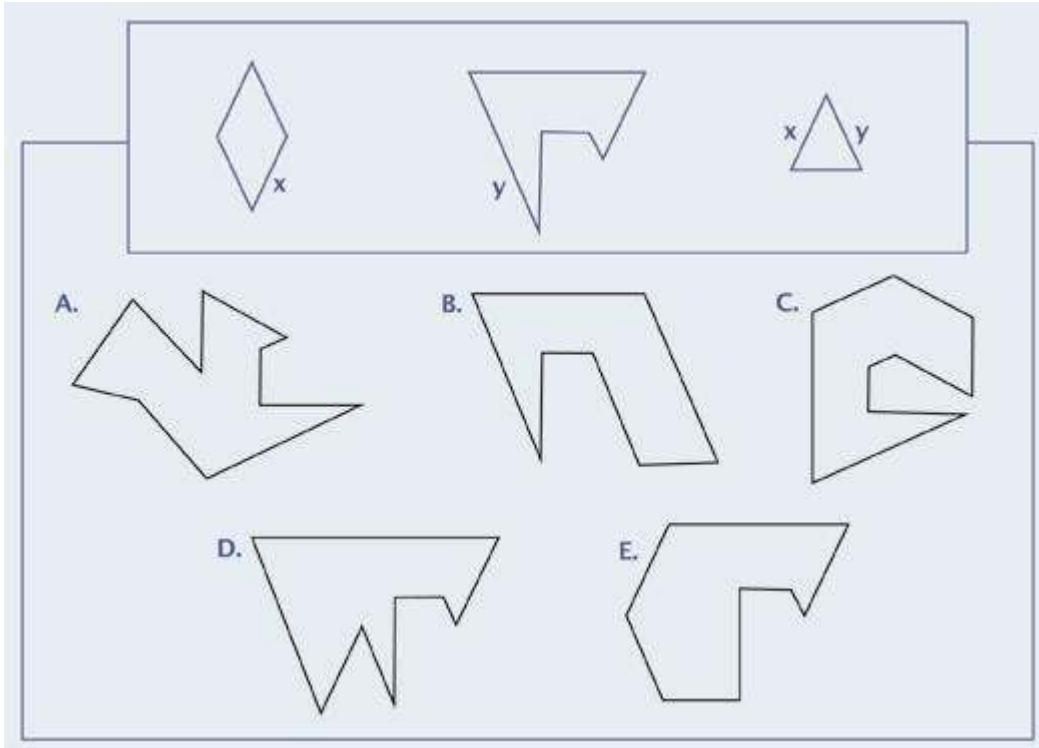
Only options A and E are left. Our best advice is to locate a feature or a side of one of building stones shapes. Look at the right-most triangle which points downwards – its upper part is not flat and contains inwards angle. This feature is easily spotted in shape E. The left side of that arrow is labeled with 'y', which means it needs to be connected to the middle arrow. However, it is clear that it is not; therefore shape E is also eliminated.

We're left only with shape A. Check the following illustration and see how the original parts fit together according to the labels. A is the correct answer.

The answer is figure **A**.



2. Select the answer that combines the three shapes correctly:



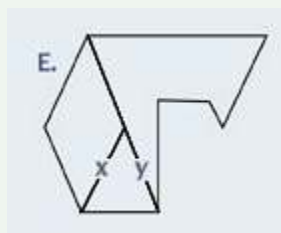
A B C D E

Explanation

This question demands more of our attention to examine the labelled connection points. It is still possible to eliminate two of the answer choices rather easily. The rightmost building block (labelled with a single 'y') has a prominent bottom vertex, which marks its direction. We can spot this vertex directing to a different direction in shapes A and C; therefore these options can be eliminated.

It seems like either the other shapes maintain their original position, or it is difficult to determine otherwise. Now it is time to examine the labels. The above mentioned prominent vertex has a 'y' tag next to it, and it should be connected to the triangle. Looking at shape B – we see that no shape is connected that prominent edge. Option B is eliminated. Imagine the little triangle connects to the diamond shape. The left obtuse angle of the diamond should still be visible. That is not the case in shape D – it is eliminated as well. Check the following illustration and see how the original parts fit together according to the labels.

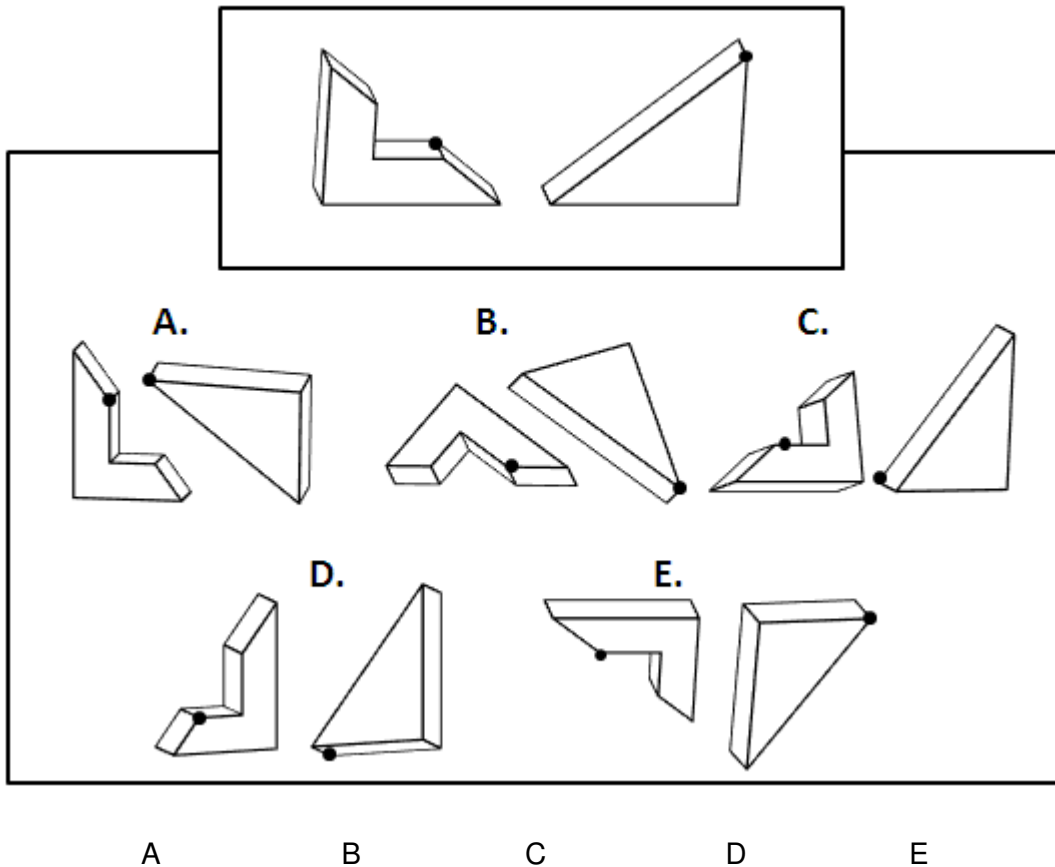
The correct answer is **E**.



Part II

The aim of this section is to check whether you understand how 3D-objects can be viewed through multiple perspectives. Your task is to find which answer choice represents the test shapes after they have only been rotated in space, without changing the location of the dot on their corners.

3. Which option shows both rotated objects with the dot placed in the correct corner?



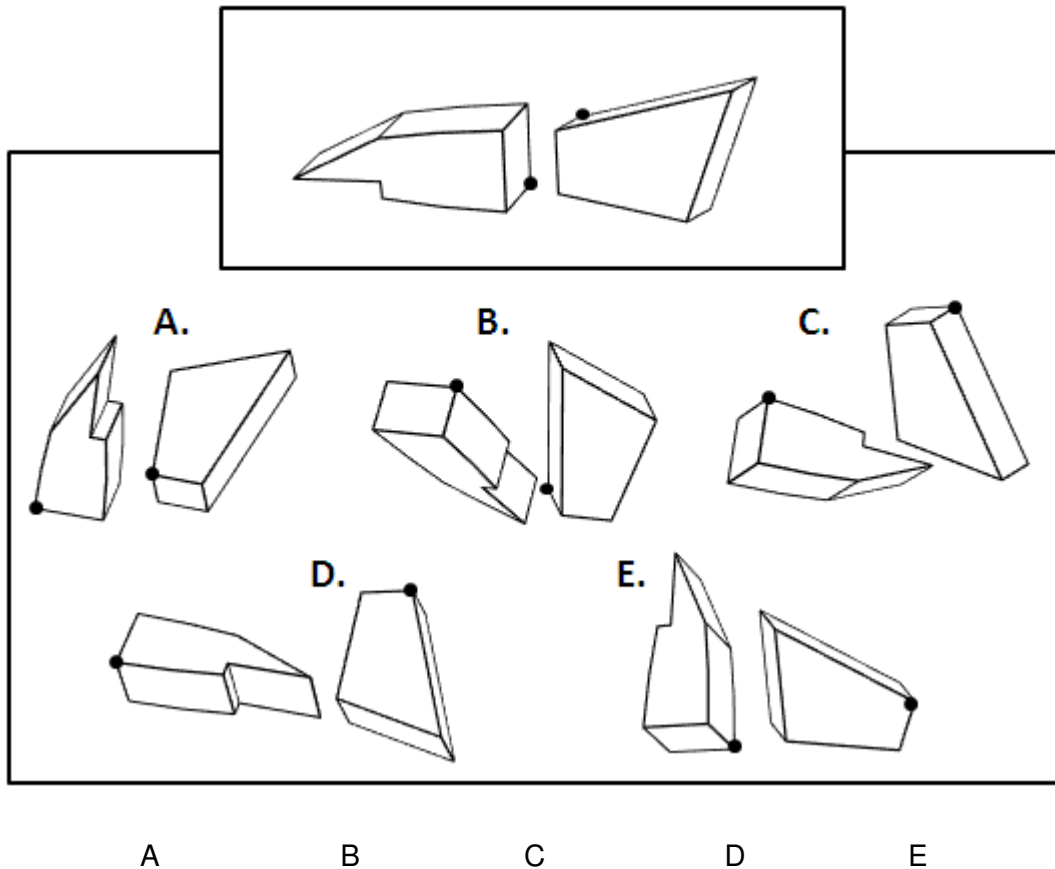
Explanation

A triangle and a corner-like object appear. The most important feature to notice in this question is that in both shapes, although they look almost symmetrical, their legs are of different length; hence, each vertex has a unique position. Let's choose to begin with the triangle this time. Its marked vertex is on the shorter leg. In options A and B the marked vertex is found on the longer leg; thus, they are eliminated.

Options C and D are good fit, while in option E the marked vertex is parallel to the original one. E is also eliminated. Only options C and D remains. On the corner-like shape the marked vertex is found on the longer leg. This is true only in shape C; thus it can be marked as the correct answer, and we can move to the next question. You can examine and see of course that there is a match between the marked vertices, yet your goal is to find the correct answer as fast as you can and move forward, since time is limited.

The correct answer is **C**.

4. Which option shows both rotated objects with the dot placed in the correct corner?



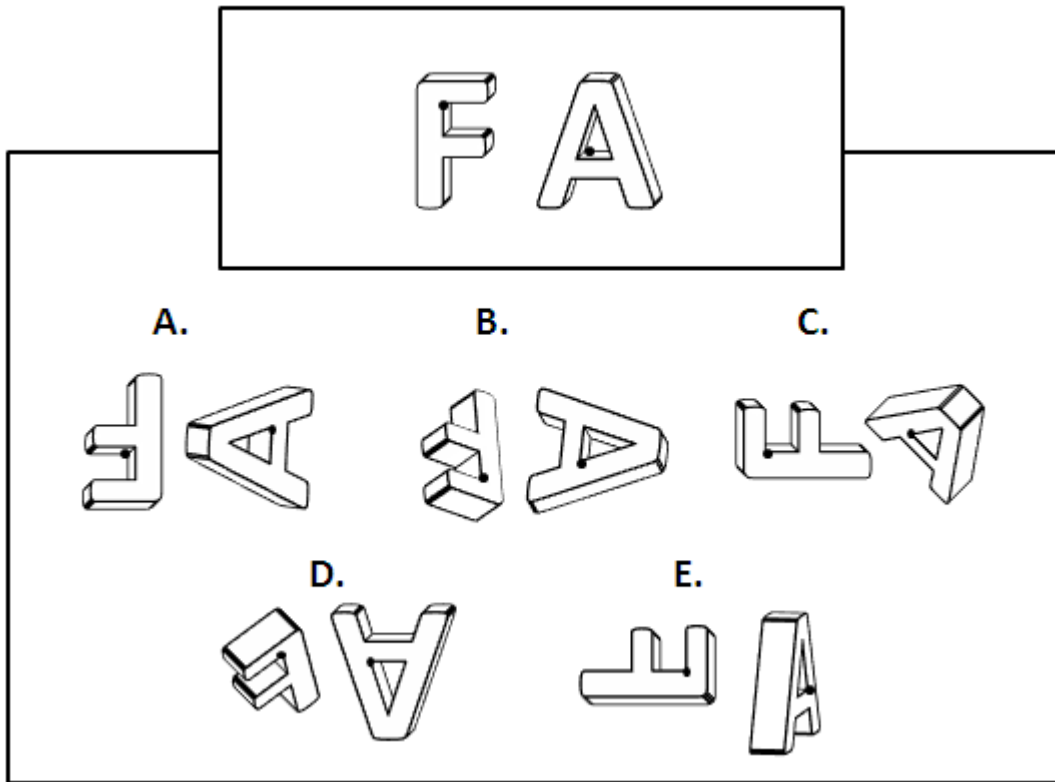
Explanation

Two different objects appear. Which one of them is easier to rotate? The screwdriver –like shape has one face with an inner angle, which makes tracking rather simple. The respective shapes in options A, B and D have the same marked vertex. In option C, the parallel inner vertex is marked, while in option E one of the outer vertices is marked. These two options are eliminated. We now turn to the quadrilateral shape.

In option A, the marked vertex belongs to a different lateral face, thus this option is eliminated. Option B is an exact fit. Since there is only a single correct answer, we can mark B as the correct answer without further examination of option D, and move to the next question.

The correct answer is **B**.

5. Which option shows both rotated objects with the dot placed in the correct corner?



A B C D E

Explanation

This time, the three-dimensional objects are familiar – two letters of the Latin ABC. However, don't let 'familiar' to be your downfall. The object formed by the letter 'A' is symmetrical in nature. This means that each vertex has another respective vertex, which is located in the opposing side of the object. For instance, the vertex marked in red is the Matching vertex to the originally marked vertex.



An important consequence of this feature is it is not enough to mentally rotate a symmetrical shape until it is laid in the same position as the answer choice. One must remember to check the respective opposing position – the marked vertex will be in a different location. Examine the 'A' objects in all answer choices. All the marked vertices match the original marking, apart from option C.

If you check the 'F' objects, you'll find that only in options B and C the marked vertex is the same one respectively to the model. Thus, only in option B both objects are correct rotations of the original objects.

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