Smart Cub Learning

11+ TOPIC PACK

Cube Nets

Non-verbal Reasoning

60 questions from warm-up to exam level, with worked solutions

SAMPLE

Smart Cub Learning topic packs are original practice material. We are not affiliated with GL Assessment, CEM, Quest Assessments, Kent County Council or any school.

How to do it

A net of a cube is a flat shape made of six squares. It folds up into a cube. Each square becomes one face of the cube. In these questions you have to picture the folding in your head.

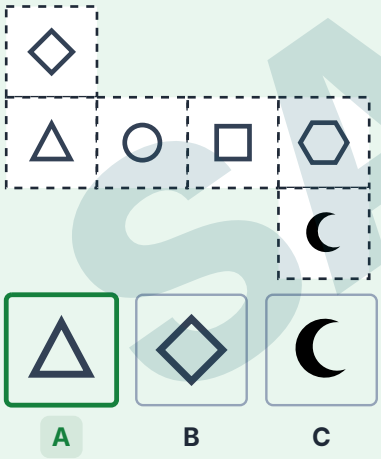
Learn the method

1. Find the face the question names. Say its name in your head, for example the heart.
2. Squares that touch it in the net are its neighbours on the cube. They are never opposite it.
3. A straight line of three squares: the two ends are opposite. There is one square between them.
4. No straight line of three? Start on the named face and step to the next square, for example down.
5. Then step sideways as far as you need. Now take one more step the same way as your first step.
6. Sideways means at right angles to your first step. After a step up or down, go left or right. After a step left or right, go up or down.
7. You land on the opposite face. Two steps the same way, with only sideways steps between, always reach it.
8. On top and on the bottom are opposite faces. If a face is on top, the face opposite it is on the bottom.
9. Choose the picture that shows the face you found.

Worked example 1

Picture each net folding up along its lines, one face at a time.

This net is folded to make a cube. Which face is opposite the square?



A B C

How to work it out

1. In the net, the square and the triangle are in a straight line.
2. There is one face between them, the circle.
3. Two faces like that always end up opposite each other on the cube.
4. So the triangle ends up opposite the square.

The answer is A.

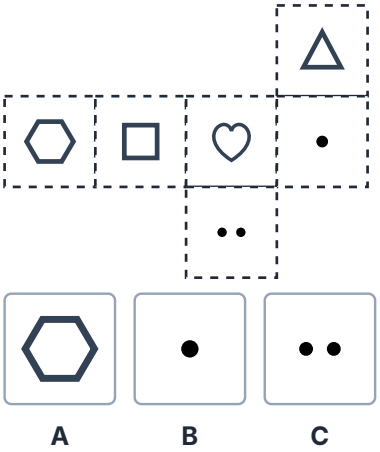
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Part 1 Warm up

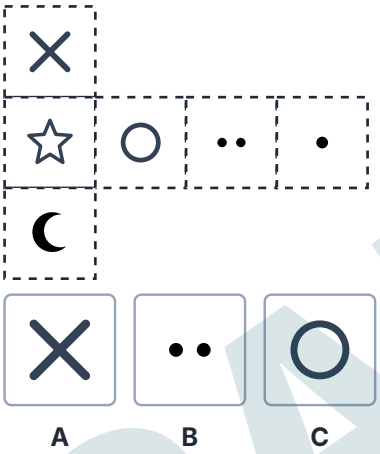
15 questions. Circle the letter of your answer. Use spare paper for your working.

Picture each net folding up along its lines, one face at a time.

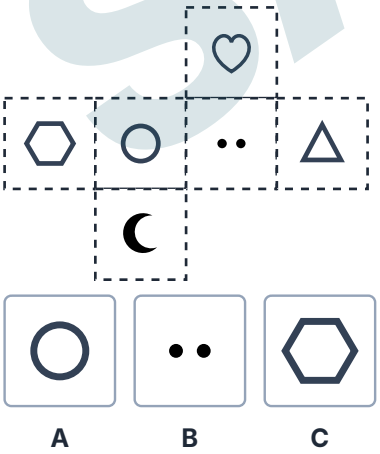
1 This net is folded to make a cube. Which face is opposite the heart?



2 This net is folded to make a cube. Which face is opposite the star?



3 This net is folded to make a cube. Which face is opposite the two dots?



SAMPLE

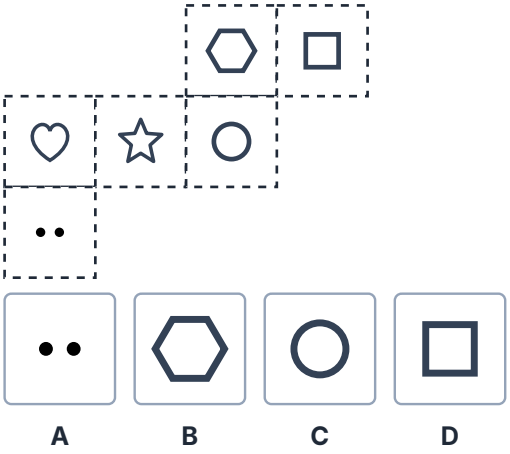
NVR

Part 3 Stretch

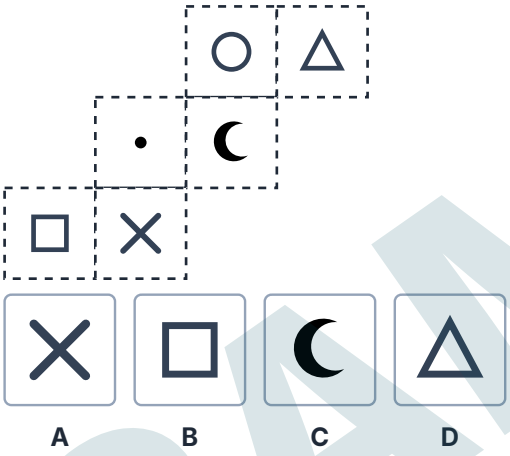
15 questions. Circle the letter of your answer. Use spare paper for your working.

Picture each net folding up along its lines, one face at a time.

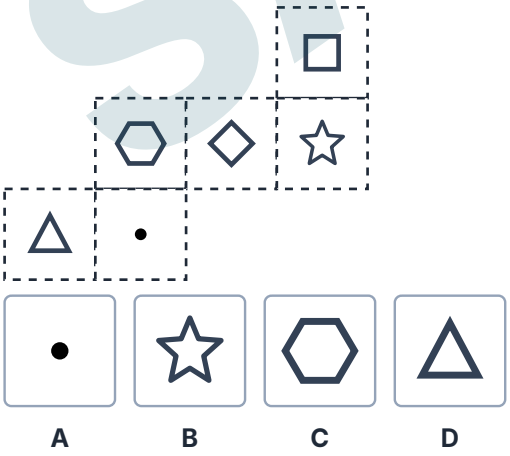
31 This net is folded to make a cube. Which face is opposite the two dots?



32 This net is folded to make a cube. Which face is opposite the square?



33 This net is folded to make a cube. Which face is opposite the square?



SAMPLE