

What is Spatial Reasoning?

These questions test how well you can picture a shape changing in space - reflected in a mirror or in water, folded and punched, built from cubes, hidden inside a bigger figure, or turned around. Picture the change in your head (or sketch it on rough paper) before you look at the options.

Q1. Mirror Image

PROBLEM FIGURE



Mirror placed vertically to the right of the letter

ANSWER FIGURES



(A)



(B)



(C)



(D)

Answer: (B)

A mirror held vertically to the right of an object reverses left and right only; up stays up and down stays down. Option B is the only figure where the letter R has been flipped left-to-right, which is exactly what a vertical mirror does. Option A is flipped top-to-bottom (that would be a water image), option C is unchanged, and option D is turned 180 degrees.

Q2. Water Image

PROBLEM FIGURE



Water surface placed horizontally below the letter

ANSWER FIGURES



(A)



(B)



(C)



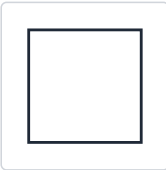
(D)

Answer: (C)

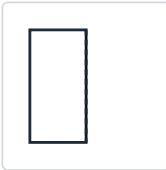
A water image is what the object would look like reflected in a pool lying below it - the figure flips top-to-bottom, while left and right stay exactly where they were. Option C shows L turned upside down with no left-right change, so it is the correct water image. Option A is a left-right mirror image instead, option B is unchanged, and option D is simply rotated.

Q3. Paper Folding and Punching

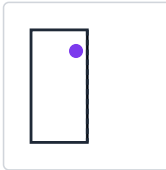
PROBLEM FIGURE



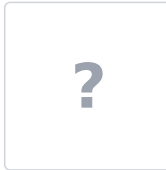
Step 1: flat paper



Step 2: folded once down the middle

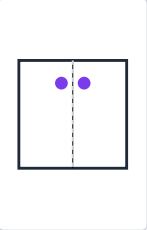


Step 3: a hole is punched near the fold

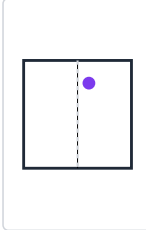


Unfolded, the holes look like...

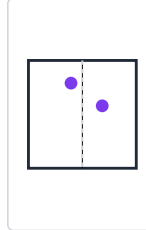
ANSWER FIGURES



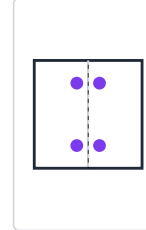
(A)



(B)



(C)



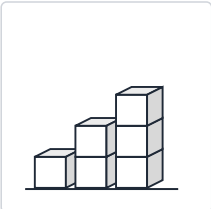
(D)

Answer: (A)

Unfolding reflects a punched hole across every fold line. Here the paper was folded only once, along the middle, so the single punch becomes two holes, placed at the same height and equally spaced on either side of the fold line. Option A is the only figure with exactly two holes mirrored about the centre; option B keeps only one hole, option C places them at uneven heights, and option D shows four holes, which would need two folds.

Q4. Counting Cubes

PROBLEM FIGURE

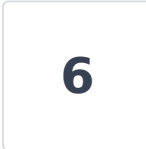


How many cubes make up this staircase? (Assume no cubes are hidden from view.)

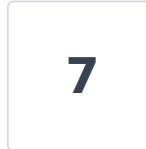
ANSWER FIGURES



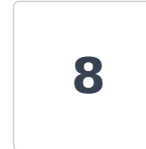
(A)



(B)



(C)



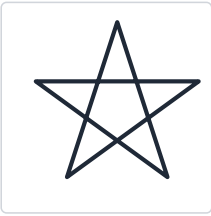
(D)

Answer: (B)

The staircase is built from three columns resting on the ground, one cube high, two cubes high, and three cubes high. Counting column by column: $1 + 2 + 3 = 6$ cubes in total.

Q5. Finding the Hidden Figure

PROBLEM FIGURE

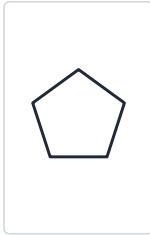


Which shape is hidden inside this figure? (It is drawn using 5 straight, crossing lines.)

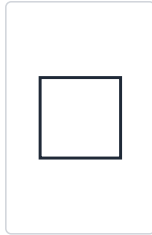
ANSWER FIGURES



(A) Triangle



(B) Pentagon



(C) Square



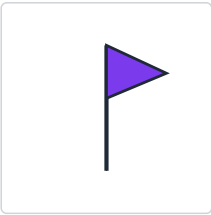
(D) Hexagon

Answer: (B)

This five-pointed star (a pentagram) is drawn with five straight lines that cross one another. Wherever these lines cross near the centre, they always trace out a small pentagon - trace the innermost boundary of the figure and you will find its five sides. So the hidden figure is a pentagon, not a triangle, square, or hexagon.

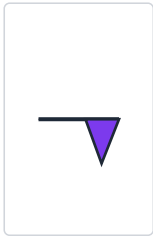
Q6. Rotation or Mirror Image?

PROBLEM FIGURE

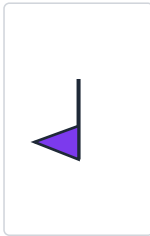


Three answer figures are this shape rotated; one is its mirror image

ANSWER FIGURES



(A)



(B)



(C)



(D)

Answer: (C)

Turning the flag shape by 90, 180 or 270 degrees never changes which side of the pole the flag sits on relative to the direction of the turn - that is true in options A, B and D. Flipping the shape in a mirror, however, swaps the flag onto the pole's other side, which no amount of turning can undo. Option C shows exactly this mirrored version, so it cannot be reached by rotating the original figure.

Exam Tip

For mirror and water images, check which direction flips - left-right for a mirror, top-bottom for water - instead of redrawing the whole figure. For paper folding, one punch becomes one extra hole for every fold; unfold the paper in your head one fold at a time. For rotation questions, follow a single distinctive part of the figure (like the flag) through the turn: if its position flips to the "wrong" side, the answer is a mirror image, not a rotation.