Embedded Figures

~ Reasoning · SSC Exams ~

← circled = key tricks!

An **embedded (hidden) figure** question gives you a small **target** shape, then a bigger, busier figure made of many crossing lines. You must find the exact target hiding inside the complex figure or among the answer options.

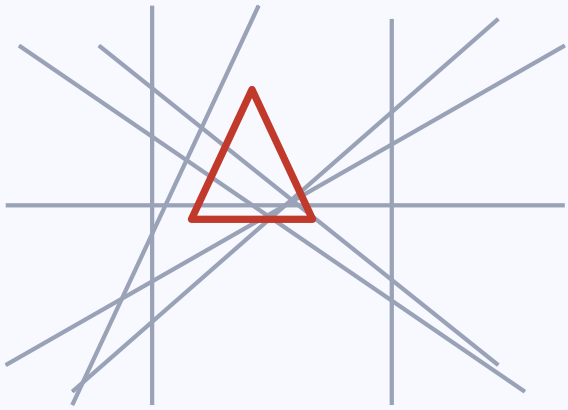
① The Golden Rule

The hidden figure must match the target in **three** things at once — **Same Shape**, **Same Size**, **Same Orientation**. It may sit anywhere in the picture, but it may **never** be rotated, flipped (mirrored) or resized. Only its *position* is allowed to change.

Worked example — spot the target triangle

Target

Hidden inside this figure →



Step 1 — note the target: a triangle with one sharp top vertex and a flat, wide base.
Step 2 — scan the busy figure for three lines meeting at those same three angles, same length ratios.
Answer → traced in **red** above — same shape, same size, not rotated. ✅

Which option below is the real target?

(A) ✓

(B) rotated

(C) resized

(D) mirrored

✓ This notebook covers **every embedded-figure trick:** tracing the outline, breaking a figure into lines, elimination, common shape galleries, mirror/rotation traps, counting figures & speed methods —

each with solved examples.

② Method — Trace the Outline

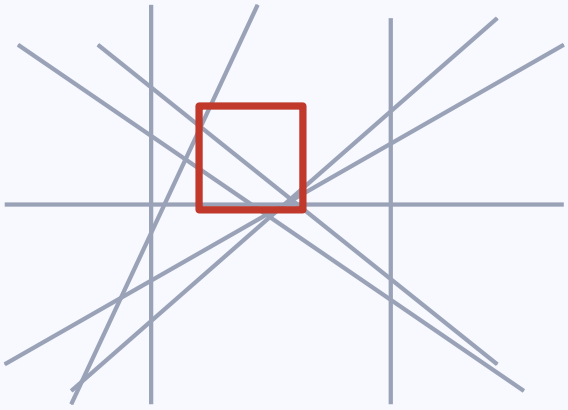
Rule

Place your finger (or pencil-tip, mentally) on the target's **starting vertex**, and walk along its outline noting each turn-angle and length. Then search the complex figure for a path that turns the **same way, in the same order**, without lifting or stretching.

Worked example — tracing a square

Target

Hidden inside this figure →



Step 1 — the target has 4 equal sides and 4 right-angle turns (all 90°).
Step 2 — trace from any corner of the busy figure; keep only paths that turn 90° every time and return to the start after exactly 4 turns.
Answer → traced in **red** — same 4 equal sides, same right angles, not tilted. ✅

Which option below is the real target?

(A) rotated

(B) ✓

(C) enlarged

(D) shrunk

Always start tracing from the target's **most distinctive corner** (sharpest angle, or a lone stray line) — it is easiest to spot first in the crowd of lines.

✓ Count the target's **sides** before you start tracing — a 3-sided target can never hide inside a loop that needs 4 or 5 turns to close.

③ Method — Break Into Line Segments

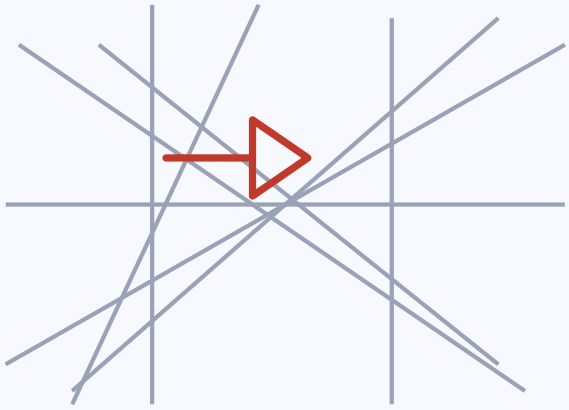
Rule

A complex figure is only a pile of **individual straight lines** crossing each other. Mentally erase every line that is **not** part of your target, one at a time. What survives should be exactly the target's outline — if it isn't, that guess was wrong.

Worked example — isolating an arrow

Target

Hidden inside this figure →



Step 1 — the target = one straight shaft + a small triangular head at one end.
Step 2 — remove every crossing line that doesn't touch a shaft-then-triangle pattern; only 4 lines remain matching that description.
Answer → traced in **red** — correct shaft length, correct head angle, unrotated. ✅

Which option below is the real target?

(A) mirrored

(B) rotated

(C) ✓

(D) resized

Work with a **pencil in real exams** — shade over the lines you have ruled out so you never re-check them twice. Digitally, imagine dimming them.

Look for the target's **unique feature first** — here, the arrowhead. Anything without a matching triangular head can be rejected in one glance.

④ Elimination Technique

Rule

You rarely need to find the answer — you only need to **kill the wrong ones** faster. Any option needing rotation, flipping or resizing to match is **automatically wrong**, even if it "looks close." Reject those first; whatever survives is the answer.

Worked example — a house-shaped (pentagon) target

Target

Now compare four options — eliminate as you go:

(A) rotated ✗

(B) ✓ kept

(C) enlarged ✗

(D) mirrored ✗

Step 1 — (A) is tilted at a slant — the roof no longer points straight up → reject.
Step 2 — (C) has the same angles but is visibly bigger than the target → reject.
Step 3 — (D) is flipped left-right — a mirror image, not the true figure → reject.
Answer → only **(B)** keeps shape, size & orientation identical. ✅

In an exam, cross out each wrong option's letter the instant you spot its flaw — don't waste a second look re-comparing it later.

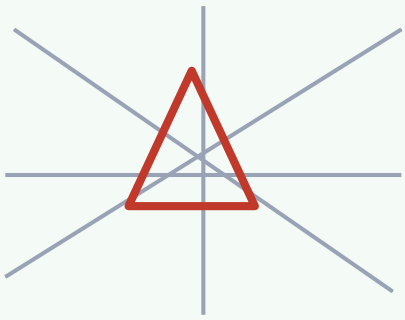
Fastest single check — compare the **topmost point** of every option to the target's topmost point. Wrong tilt shows up immediately.

⑤ Hidden Triangle · Square · Arrow

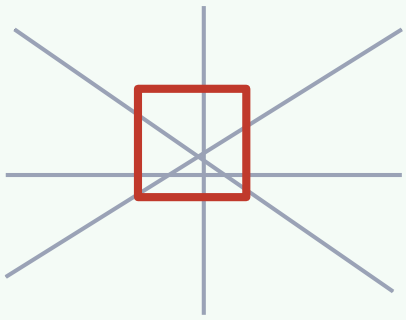
These three basic shapes appear inside SSC line-drawings **more than any others**. Learn to spot each one's "signature" instantly:

· **Triangle** — 3 straight sides, 3 angles. · **Square/Rectangle** — 4 sides, all corners 90°. · **Arrow** — a shaft + one pointed head.

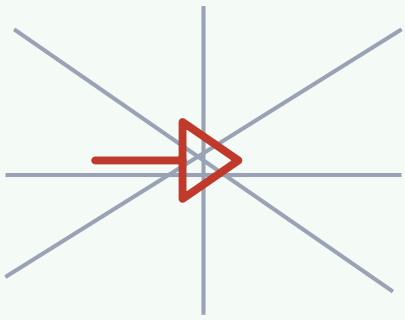
Triangle in a drawing



Square in a drawing



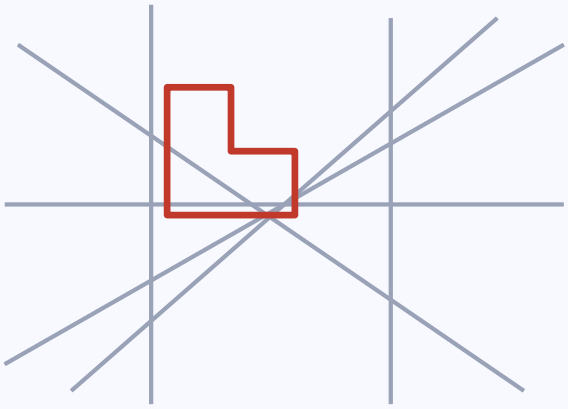
Arrow in a drawing



Worked example — an L-shaped target

Target

Hidden inside this figure →



Step 1 — target has 6 sides, all right angles, one "step" cut into a rectangle.
Answer → traced in **red** — the step's direction & proportion both match exactly. ✅

"L," "T," and "Z" shaped targets are just rectangles/squares with a bite taken out — count corners (vertices), not just sides.

⑥ Traps — Mirror & Rotated Look-Alikes

The two most common traps

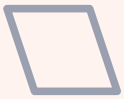
Mirror trap — the option is flipped left-right (or up-down); it looks "almost right" but every slant runs the opposite way. **Rotation trap** — the option is the correct shape turned by some angle; sides & angles all match, only the *facing direction* is wrong.

Compare — target vs. the two traps

Target (correct)

✓ matches exactly

Mirror image



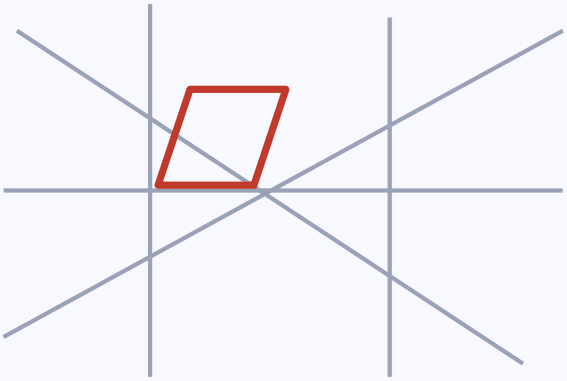
X slant reversed

Rotated 90°

X direction changed

Worked example — find it among the traps

Hidden inside this figure →



Step — check the slant direction of the two slanted sides against the target — they lean the **same way** here, so it's a true match, not a mirror. ✅

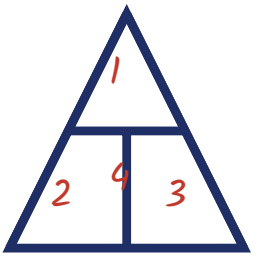
Trap — a mirror image has the **same** side-lengths and angles as the target, so length-checking alone will not catch it. You must check **direction of slant.**

⑦ Counting Embedded Figures ?

Rule

*A close cousin of embedded-figure questions asks: "**How many triangles / squares are in this figure?**" Count in stages — first the smallest pieces, then combinations of 2, then of 3, and so on, never skipping a size group.*

Worked example — how many triangles?



Step 1 *— the midpoints of each side are joined, splitting the big triangle into 4 small triangles (labelled 1,2,3,4).*

Step 2 *— small triangles = 4. Any single group of 3 small ones re-forms the outer triangle = 1 more.*

Answer *→ 4 + 1 =* ***5 triangles*** *total.* ✅

Counting checklist — use every time

- *Label every smallest region with a number first.*
- *Count 1-piece shapes, then look for 2 adjacent pieces that combine into a bigger valid shape.*
- *Finally check if 3 or more pieces re-form the whole outer shape.*
- *Add every group together — never double count the same combination twice.*

Writing numbers 1,2,3... inside each smallest region before counting combinations prevents the #1 mistake — missing or repeating a shape.

Don't forget the ***outer boundary itself*** *almost always counts as one extra big shape — it's the easiest one to accidentally skip.*

⑧ Speed-Solving Tricks ✔

1→ **Vertex count** — count the target's corners first. An option with the wrong number of corners is instantly out, no tracing needed.

2→ **Angle match** — find the target's sharpest (most pointed) angle; that unique angle is easiest to spot first in a busy figure.

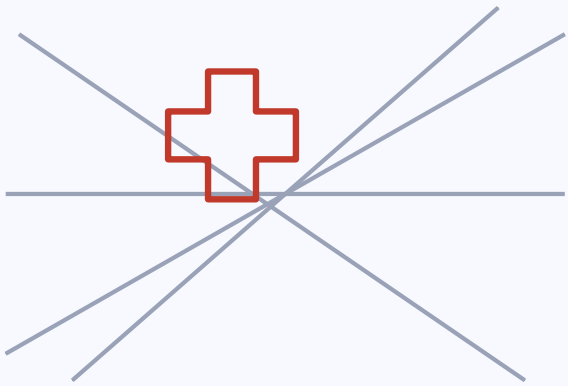
3→ **Length ratio** — compare the longest side to the shortest side of the target; that ratio must be preserved exactly.

4→ **Start with the rarest feature** — an arrowhead, a step-cut, or an odd angle is far rarer in the clutter than a plain straight line.

Worked example — vertex-count shortcut

Target (12 corners)

Hidden inside this figure →



Step 1 — the cross-shaped target has exactly 12 corners, all 90° — a very rare feature.
Step 2 — scan only for a 12-cornered outline; any option with 8 or 16 corners is rejected instantly, no need to trace it fully.
Answer → matched in **red** above by corner-count alone. ✅

Vertex-counting is the single fastest filter in the whole chapter — practise counting corners in under 2 seconds per figure.

How to Attack ANY Embedded-Figure Q

1→ Study the **target** first — count its sides, corners, and note its most unique feature.

2→ In each option, reject anything with the **wrong vertex count** instantly.

3→ Reject anything **rotated, mirrored or resized** — check slant direction and relative size.

4→ For what remains, **trace the outline** line-by-line to confirm a perfect match.

5→ If asked to **count** shapes instead, label every smallest region and count in size-groups.

Common traps → mirror images that look "close enough"; slightly enlarged/shrunk copies; a missing or extra corner hidden in clutter; and rotated shapes that keep all angles equal (squares, crosses).

Shape Gallery — one-glance revision

Triangle

Square

Arrow

Star

Pentagon

Cross

Sketch each of these 6 shapes from memory before your exam — recognising them instantly saves precious seconds per question.

Exercise — Find the Embedded Figure

For each target below, pick the option (1–4) with same shape, size & orientation. Check the Answer Key next page.

Q1.

Q2.

Q3.

Q4.

Q5.

Q6.

✓ *First eliminate wrong vertex-counts, then rotated/mirrored/resized copies — write your final pick before flipping the page.*

Answer Key

Q1 → (3) — option (1) is rotated 45°, (2) is shrunk, (4) is mirrored; only (3) keeps shape, size & orientation.

Q2 → (1) — (2) is tilted 30°, (3) is enlarged, (4) is shrunk; only (1) is the exact original square.

Q3 → (4) — (1) is rotated 180° (arrow points the other way), (2) is mirrored, (3) is resized; (4) matches exactly.

Q4 → (2) — (1) is enlarged, (3) is rotated 60°, (4) is mirrored; (2) alone is unchanged.

Q5 → (4) — (1) is rotated 90°, (2) is mirrored (slant reversed), (3) is shrunk; (4) is the true parallelogram.

Q6 → (1) — (2) is mirrored, (3) is rotated 180° (peaks point down), (4) is shrunk; (1) matches the zig-zag exactly.

Why the traps fool people

A **rotated** copy keeps every angle and every side-length identical to the original — that's exactly why it "feels right" at a glance. A **mirrored** copy also keeps lengths and angles equal. The only way to catch both is to compare the **direction** each shape faces — trace clockwise from the same unique vertex on both, and see if the turns go the same way.

Score yourself

5–6 correct → **excellent**, your eye for shapes is sharp! 3–4 → **good**, revisit the elimination & trap pages. Below 3 → **redo** the "How to Attack" 5-step strategy slowly, tracing each option by hand.

Redo any question you missed by physically tracing both figures with your finger, corner to corner — muscle memory beats guesswork.

Quick-Revision Recap

The Golden Rule, one more time

Same **Shape** + Same **Size** + Same **Orientation** = the only correct match. No rotation, no mirror, no resizing — only position may change.

Trace-Outline: walk the target's turns one by one

Break-Into-Lines: erase non-matching lines mentally

Elimination: kill rotated/mirrored/resized options first

Vertex-count: wrong corner count = instant reject

Mirror trap: same lengths/angles, slant reversed

Rotation trap: same shape, facing a new direction

Counting Qs: label smallest pieces, add size-groups

Rarest feature: search for it first — saves time

Six shapes to remember instantly

✓ Practice daily with 5 embedded-figure puzzles — your eye trains fast, and speed comes naturally within a week.

☆ Spot the shape, crack the figure! ☆