

Thinking Skills Hacks for Top 5% Results

Selective Schools Preparation

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Aiming for Top 5-10% in 2026 & 2027 Selective Tests

- Thinking Skills is the **quiet separator** once everyone has good maths and reading.
- Questions test how fast you can spot patterns, flaws, and shortcuts under pressure.
- ✓ Small gains here can move you many ranks, especially into the top 5-10%.



Question type: Strengthen the argument

Stem:

Study finds dolphins sharing the same resting area develop similar whistles, even when they are from different families. Researchers conclude that dolphins learn communication styles from their social environment, not just their families.

- A. Young dolphins who switch between different resting areas develop mixed whistling patterns
- B. Dolphins from the same family use identical whistles regardless of location
- C. Similar whistling patterns have been observed in other marine mammals
- D. Adult dolphins rarely change their whistling patterns once established

- Correct answer: Option A
- > The conclusion claims that the environment (resting area) teaches dolphins how to whistle.
- If dolphins that move between areas end up with mixed patterns, that links whistling style directly to the areas, not the family.
- > Options B, C, and D either point back to family or give side facts that do not connect to the conclusion.
 - Hack focus: Argument & flaw shortcut
 - Hack: To strengthen an argument, choose the option that adds new evidence for the same cause-and-effect link, not a random extra detail.

Question type: Find the flaw in an argument

Stem: Sofia shows research data of declining fish populations. Marcus replies, "The research must be wrong because my uncle is a fisherman, and he says he's catching more fish than ever."

- A. Marcus assumes his uncle's personal experience invalidates scientific research data.
- B. Marcus believes all fishermen have the same experience as his uncle.
- **C.** Marcus thinks scientific research is never reliable.
- D. Marcus suggests that fish populations are actually increasing globally.

- ✓ Correct answer: Option A
- The research is based on wide data across regions and time.
- Marcus uses one person's experience (his uncle) to claim the whole research is wrong.
- One **small sample** cannot destroy large, carefully collected data.
- Hack focus: Argument & flaw shortcut
 - Hack: When a big study is attacked using one story, name the flaw as "anecdote vs data" and look for that in the options.



Question type: Weaken the argument

Stem: Lizards near rocks survive hot days better but grow more slowly than lizards in open areas. Researchers say this shows a trade-off between immediate survival and long-term growth.

- A. Lizards near rocks are genetically distinct from those in open areas.
- B. Lizards near rocks have significantly less access to food than lizards in open areas.
- C. Temperatures next to the rocks are lower than in the open sand.
- D. Open-area lizards spend more time basking in direct sunlight than rock-dwelling lizards.

- **Correct answer: Option B**
- The argument says the same behaviour that helps survival near rocks causes slower growth.
- If food is scarcer near rocks, then **slow growth is caused by less food**, not by the survival behaviour.
- This breaks the supposed "trade-off" link between survival behaviour and growth.
- Hack focus: Decoding the stem
- Hack: Underline what the author says is causing what; to weaken the argument, choose the option that shows the effect comes from a different cause.

Q4 – Colour Operations Code



Question type: Number operations sequence



Stem: Base number is 150. The colour rules are: Red = add 100; Blue = subtract 50; Green = multiply by 2; Yellow = add 30. What temperature does the sequence "Red-Green-Blue-Yellow" represent?

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Options:

A. 280°

B. 330°

C. 380°

D. 480°

Correct answer: Option D



Start at 150. Red: 150 + 100 = 250.

Green: $250 \times 2 = 500$.

Blue: 500 - 50 = 450.

Yellow: 450 + 30 = 480.

- Hack focus: Time strategy
- Hack: For operation chains, write one working line and update the number after each step; never try to hold all four steps in your head.



Question type: Logic with conditions

"All certified divers must wear a blue wetsuit during training sessions."

Riley says, "A diver wearing a blue wetsuit during training must be certified."

Maya says, "If a diver isn't certified, they cannot wear a blue wetsuit during training."

If the statement is true, whose reasoning is correct?

A. Riley only

B. Maya only

C. Both Riley and Maya

D. Neither Riley nor Maya

- Correct answer: Option D
- The original rule is: certified diver → must wear blue.
- > Riley flips it to: wears blue → is certified, which is not guaranteed by the rule.
- Maya says not certified → cannot wear blue, but the original statement does not ban non-certified divers from wearing blue.
- Mack focus: Decoding the stem
- Hack: "All A must B" means A leads to B; it does not mean that everyone with B is A, or that non-A people are banned from B.

Q6 – Rising Water Temperature

- Ouestion type: Quantitative reasoning with time
- Stem: Rachel measures water temperature **every 15 minutes** starting at 2:45 pm. It increases by **1.8°C** each time. Initial temperature is 24.5°C. What will the temperature be at 4:00 pm?
- > Options:

A. 31.7°C B. 33.5°C

C. 29.9°C D. 30.8°C

- Correct answer: Option B
- From 2:45 pm to 4:00 pm is 1 hour 15 minutes, which is 75 minutes.
- **→** 75 minutes ÷ 15 minutes = **5 measurement steps**.
- ✓ Temperature rises 1.8°C each step, so total rise is $5 \times 1.8 = 9$ °C.
- **▮** Final temperature = 24.5°C + 9°C = **33.5°C**.



Hack focus: Time strategy



Hack: For "every 15 minutes" questions, first count how many 15-minute jumps there are; then multiply once, instead of adding the change again and again.



Question type: Letter code / sequence



Stem: For each letter in a word, if its position in the word is even, multiply its position in the alphabet by 2; if its position in the word is odd, add 3 to its alphabet position. The code **16-10-6-16-4-28-12-38-16** represents which word?

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Options:

A. MACARONIS

B. QUADRANTS

C. FABRICATE

D. MECHANISM

- **✓** Correct answer: **Option D**
- For odd positions, subtract 3 to undo the "+3" rule; for even positions, divide by 2 to undo the "×2" rule.
- Doing this gives alphabet positions: 13, 5, 3, 8, 1, 14, 9, 19, 13.
- These positions match the letters M, E, C, H, A, N, I, S, M.
- So the decoded word is MECHANISM.
 - Hack focus: Decoding the stem
 - Hack: When decoding a word code, build a small table and use the **reverse operation** for each position; then turn numbers back into letters.



Question type: Quantitative reasoning / division



Stem: A library has sections of 8 shelves, each shelf holds 35 books. The librarian must arrange 875 new books, filling sections completely before starting a new one. How many complete sections are filled and how many books are left over?



Options:

A. 3 sections, 35 books

B. 3 sections, 85 books

C. 2 sections, 155 books

D. 4 sections, 15 books

✓ Correct answer: Option A



One section holds $8 \times 35 = 280$ books.

- 875 ÷ 280 is a bit more than 3, so there are 3 full sections.
- $3 \times 280 = 840$ books used, leaving 875 840 = 35 books.
- So 3 complete sections are filled, with 35 books left for the next one.



Hack focus: Time strategy

Hack: In "how many full sections" questions, divide to estimate the number of full groups, then multiply back to find how many items are left.



Question type: Ratios / weighted averages



Stem: Mines A, B, and C each produced gems graded 8–10, 5–7, and 1–4. 8–10 are worth 5 points, 5–7 worth 3, 1–4 worth 1. The bonus goes to the mine with the highest average gem quality. Which mine gets the bonus?



Options:

A. Mine A

B. Mine B

C. Mine C

D. All mines will receive the bonus

- **✓** Correct answer: **Option C**
- Each mine produced 50 gems in total, so the mine with the highest total points will also have the highest average.
- Calculations:

Mine A: $15\times5 + 25\times3 + 10\times1 = 160$ Mine B: $12\times5 + 28\times3 + 10\times1 = 154$ Mine C: $18\times5 + 22\times3 + 10\times1 = 166$ (Highest)

- Hack focus: Elimination
 - **Hack:** When groups have the same size, compare total scores instead of doing full average calculations for each one.

Q10 - Orchestra Experience Logic



Question type: Logic with "all / some / none"



Stem: All string players must have at least 5 years of experience. Some wind players are string players. No percussionists are string players.

Which conclusions follow:

- I. Some wind players have at least 5 years of experience
- II. No percussionists have 5 years of experience
- III. All string players are wind players



Options:

A. I only

B. II only

C. I and II only

D. III only



- Some wind players are also string players.
- ◆ All string players have at least 5 years of experience, so those wind-string players also have at least 5 years.
- We know nothing about percussionists' years of experience, only that they are not string players, so II does not follow; we only know "some wind are strings", not that all strings are wind, so III does not follow.



Hack: Turn "all", "some", and "none" into quick mental diagrams, then test each conclusion slowly instead of trying to juggle all three at once.

Q11 - Junior Science Olympics Rules



Question type: Necessary vs sufficient conditions



Stem: To qualify, students must meet several requirements (regional competition win, A grades, safety course, teacher recommendations, project leadership). But winning the National Young Scientist Award or publishing research are each sufficient on their own. Which statement must also be true?



- A. If a student has published research but hasn't led a school science project, they cannot qualify.
- B. If a student hasn't won a regional science competition, they cannot qualify unless they've won the National Young Scientist Award or published research.
- **C.** If a student has recommendations from three science teachers, they will definitely qualify.
- D. Only students who have won the National Young Scientist Award can qualify without meeting the other requirements.

- Correct answer: Option B
- A regional competition win is one of the "must have" requirements.
- > If a student misses that, their only way in is through a sufficient condition: National Award or published research.
- Options A, C, and D either treat a necessary condition as if it were sufficient, or ignore that publishing research is also sufficient.
- Hack focus: Argument & flaw shortcut
 - Hack: Remember: **necessary conditions** are the normal "must haves", but a **sufficient condition** can jump you straight to the result even if some "must haves" are missing.



Question type: Ratios and proportional reasoning



Stem: In a puzzle box, the ratio of red to blue pieces is 3:2, and the ratio of blue to yellow pieces is 4:3. If there are 18 yellow pieces, how many red pieces are there?

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Options:

A. 36

B. 48

C. 24

D. 32

- Correct answer: Option A
- From blue:yellow = 4:3, 3 "yellow parts" = 18 pieces, so 1 part = 6 pieces.
- ightharpoonup Blue pieces = 4 parts = 4 × 6 = 24 pieces.
- From red:blue = 3:2, 2 "blue parts" = 24, so 1 part = 12; red pieces = 3 parts = $3 \times 12 = 36$.
- Hack focus: Decoding the stem
- Hack: In chained ratios, find the value of one "part" first, then walk through each ratio step by step instead of trying to jump straight to the final number.



Question type: Conditional logic / elimination

Stem: "The only students allowed to enter the Advanced Art Studio are those who have completed both Basic Drawing and Colour Theory." Which statement cannot be true?

Options:

- A. If students can enter the Advanced Art Studio, they must have completed both Basic Drawing and Colour Theory.
- B. If students haven't completed Colour Theory, they cannot enter the Advanced Art Studio.
- C. If students have completed Basic Drawing but not Colour Theory, they might still be allowed to enter the Advanced Art Studio.
- D. If students cannot enter the Advanced Art Studio, they may or may not have completed both courses.

Correct answer: Option C

- "Only students who have completed both courses may enter" means: to enter, you must have both courses done.
- So anyone missing Colour Theory definitely cannot enter.
- Option C says someone with Basic Drawing but not Colour Theory might still enter, which clashes directly with the rule.
- > Options A, B, and D all fit the idea that having both courses is required for entry.
- Hack focus: Elimination
- Hack: Treat "only those who..." like a **strict gate**; any option that lets someone through without the full requirement must be crossed out immediately.

- Use the 60-second filter and 3-pass strategy so you grab all the easy marks first.
- Strip long stories down to "evidence conclusion" before you look at the options.
- Turn wordy conditions into **short arrows, notes, or quick diagrams** you can see at a glance.
- For number and code questions, build a **neat working line or table** instead of juggling steps in your head.
- When stuck, lean on **elimination**: cross out impossible or extreme options and then choose from the last one or two.

- Do **timed mini-sets** of 5–10 Thinking Skills questions and actually use the 3-pass strategy.
- After each question, tag it with a pattern (e.g. "anecdote vs data", "only gate", "ratio chain", "code table").
- Write a one-line "hack note" for any question you got wrong or found slow, and revisit those notes weekly.
- Mix argument, logic, data, code, ratio, and spatial questions so your brain can switch gears fast, like it will in the real test.