Half the price. Half the story?

Sample task. Reading a claim against its evidence, ages 11 to 14, 20 to 30 minutes.

A recreation centre advertises its CLUB pass. Sam wants the lower monthly bill and has to choose between two passes. The centre, its advert and Sam are invented for the task.

> The advert
>
> **HALF THE PRICE PER VISIT!**
>
> Pay just S$2 each time. Make every visit count.
>
> Monthly membership fee: S$18.

The full terms

The FLEX pass costs S$4 a visit and has no monthly fee. The CLUB pass costs S$18 a month, then S$2 a visit. Both give the same access. The CLUB fee is charged even in a month with no visits.

Sam’s diary

“I expect to go between 6 and 12 times next month. I don’t know the final number yet.”

Challenge three claims

Mark each claim as supported, contradicted or cannot tell.

1. “CLUB’s charge per visit is half of FLEX’s.” _____
2. “Every member will spend less each month with CLUB.” _____
3. “Sam is more likely than not to save money with CLUB.” _____

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Half the price. Half the story?

Advice for Sam

Write an advisory note for Sam

The advert highlights “half the price per visit”. What might a hurried reader conclude about the monthly bill? Write 70 to 120 words for Sam. Quote one phrase from the advert, explain its likely effect and use the full terms to qualify the message.

Then rewrite the advert

Rewrite the advert in two sentences so that it still persuades and names the condition for a lower bill.

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The case of the vanishing allowance

Sample task. Budgeting, ages 10 to 14, lesson 11 of the Currency Flow Lab.

On Monday a student has S$30 for the school week and wants to keep S$5 for a book. Transport and lunch are essential. All prices are invented for this task.

“I never take a lot. I take often.”
The Wallet Goblin, a character from the Lab

Weekly spending	Record	Cost
Transport	Weekly total	S$8
Lunch	Weekly total	S$10
Two extra drinks	2 × S$3	S$6
One game add-on	1 × S$5	S$5

Your receipt investigation

1. Work out Friday’s balance. How much more must the student keep to reach the book goal?
2. Choose one change for next week. Keep transport and lunch. Work out the new balance and name the next-best option the student gives up.
3. Write a spending rule with one action the student could repeat every Monday.

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The case of the vanishing allowance

Test a change for next week

Choose how many extra drinks to keep and whether to buy the game add-on. Keep transport and lunch in both plans.

Weekly spending	Original plan	Revised plan
Transport	S$8	S$8
Lunch	S$10	S$10
Extra drinks at S$3 each	S$6	
Game add-on at S$5	S$5	
Total spent		
Friday's balance from S$30		

Explain your choice

Can you set aside S$5 for the book? Explain the trade-off.

My Monday spending rule

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Two passes, one budget

Sample task. Linear expressions and equations, ages 12 to 14, 20 to 25 minutes.

A recreation centre sells two passes for the same access in one month. The FLEX pass costs S$4 a visit and nothing else. The CLUB pass costs S$18 a month, then S$2 a visit, even in a month with no visits. The centre and its prices are invented for the task.

Build and test a cost model

1. You plan 10 visits. Work out both totals. Which pass costs less, and by how much?
2. Write an expression for each total after n visits. Say which part is fixed and which part changes.
3. Solve an equation to find when the passes cost the same. What is the shared cost?
4. Say which numbers of visits favour each pass. Check with one value on each side of the point where the totals match.

Visits	FLEX	CLUB	Which pass costs less?
8			
9			
10			

With a S$40 budget, how many visits could you make with each pass?

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Two passes, one budget

Test your conclusion

Then write: a short argument for a classmate

A friend says, “CLUB is always cheaper because it charges less per visit.” Write 80 to 120 words judging that claim. Give two contrasting examples, name the point where the passes match, and limit your conclusion to what the numbers show. Then revise one sentence after feedback.

One more step: you are not sure how often you will go

Sam expects between 6 and 12 visits next month and cannot say which number is most likely. Which pass should Sam choose, and what else would you want to know first?

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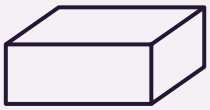
Same space. Less wrapping?

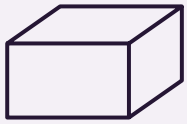
Sample task. Volume and surface area, ages 11 to 14, 25 to 35 minutes.

A packaging maker needs two closed boxes that hold the same volume. Does it follow that both need the same amount of card? Ignore the thickness of the card, the tabs and any waste from cutting.



Box A

12 cm × 8 cm × 5 cm



Box B

10 cm × 8 cm × 6 cm

The drawings are not to scale. Use the printed measurements.

Compare the two designs

1. Work out each box's volume and total surface area. Show how you counted all six faces.
2. Which box needs less card? Work out the difference and label your units.
3. Use this pair to decide whether equal volumes guarantee equal surface areas.

Measurement	Box A	Box B
Volume (cm³)		
Surface area (cm²)		

Go further

A third box measures 8 cm × 8 cm × 7.5 cm. It also holds 480 cm³. Does it need more card than Box B, or less? What do you notice about the shape of the box that needs least?

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Explain the breakfast bill

Sample task from Issue 01. Percentages and explanation, ages 10 to 14, 20 minutes.

A friend reads that Singapore's core inflation eased from 2.2% in August to 2.0% in September. "Good," they say. "My S$100 should buy more breakfast now." What would you tell them?

Each figure compares prices with the same month a year earlier. They come from the official release for September 2026.

> **Example**
> Suppose a basket cost S$100 last September and its price rose by 2.0% over the year.

1. Work out what the same basket costs this September. Show your calculation.
2. Your budget is still S$100. How much extra would you need for the whole basket?
3. Your budget now rises to S$102. What changes about your answer? What stays the same?
4. Write two sentences to your friend. Use one figure from the release and one from your example to explain the difference between a slower rise and a lower bill.

Show your calculation

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Explain the breakfast bill

Write to your friend

Aim for two sentences (about 20–60 words).

Underline the figure from the release. Circle the amount from your example. Could your friend tell which one describes Singapore and which one belongs to your imagined basket?

Revise your explanation

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Half the price. Half the story?

Challenge three claims

1. Supported. S$2 is half of S$4. The claim is true, and narrow: it says nothing about the monthly bill.
2. Contradicted. In a month with no visits CLUB still costs S$18 and FLEX costs nothing. One counterexample defeats “every”.
3. Cannot tell. Sam expects 6 to 12 visits. The diary does not say how likely each number is. CLUB is cheaper only above 9 visits, and the range crosses that point.

Possible note

“The advert says ‘half the price per visit’, and that part is true: S$2 is half of S$4. A hurried reader might conclude that CLUB halves the monthly bill. It does not, because CLUB adds a fee of S$18 a month before the first visit. The two passes cost the same at 9 visits. Below that, FLEX is cheaper. Above it, CLUB is. You expect 6 to 12 visits, so either pass could win. Before you choose, work out which end of that range is more realistic.”

Marking guide

The tutor looks for a quoted phrase, an explanation of its effect on the reader, the terms used to limit the claim, and a conclusion no stronger than the evidence.

A common slip is to call the advert a lie. Every statement in it is true. The tutor asks which true statement is doing the persuading, and what it leaves out.

Possible advert

“Planning ten visits or more this month? CLUB gives you a lower total bill than FLEX.”

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The case of the vanishing allowance

Worked response

Spending totals S$29, which leaves S$1. The gap to the book goal is S$4.

Skipping the S$5 game add-on next week leaves S$6. The student can set aside S$5 for the book and keep S$1 spare. The opportunity cost is the game add-on they would otherwise have chosen.

Marking guide

Any revised plan is accepted if it still pays for transport and lunch and reaches the S$5 goal.

A common slip is to cut one S$3 drink and stop. The tutor asks the learner to check the new S$4 balance against the S$5 goal, and to decide what else has to change.

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Two passes, one budget

Worked answer

FLEX costs $4n$ dollars. CLUB costs $18 + 2n$ dollars.

They match when $4n = 18 + 2n$, so $2n = 18$ and $n = 9$. Both cost S$36.

FLEX costs less for 0 to 8 visits. CLUB costs less for 10 or more.

With a S$40 budget, FLEX allows up to 10 visits and CLUB allows up to 11.

Marking guide

The tutor looks for a correct model, visible working, accurate units and a conclusion that fits the calculation.

A common slip is to write CLUB as $2n$. The tutor asks what the first bill would show in a month with no visits. The learner revises the expression and tests it again at ten visits.

Worked response

Either pass can win. FLEX costs less at 6, 7 and 8 visits, the two match at 9, and CLUB costs less from 10 to 12.

The range tells us which visit counts are possible. We'd need to know how likely they are to say which pass is more likely to cost less. Ask what Sam knows about next month: last month's visits, holidays, exams. If Sam is fairly sure of 10 or more, CLUB is the better choice.

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Same space. Less wrapping?

Worked answer

Volume of A: 12 × 8 × 5 = 480 cm³. Volume of B: 10 × 8 × 6 = 480 cm³.

Surface area of A: 2 × (96 + 60 + 40) = 392 cm². Surface area of B: 2 × (80 + 60 + 48) = 376 cm².

Box B uses 16 cm² less card. The two boxes have equal volumes and different surface areas, so equal volume does not guarantee equal surface area.

Marking guide

The tutor looks for all six faces counted, units that fit the quantity (cm² for card, cm³ for capacity) and a conclusion that answers the question asked.

A common slip is to count three faces. The tutor asks the learner to mark each opposite face on a net, then work it out again.

Answer

Less: 2 × (64 + 60 + 60) = 368 cm². Of the three, it is the closest to a cube. Of all closed rectangular boxes with the same volume, a cube has the smallest surface area.

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Explain the breakfast bill

Hint

One per cent of S$100 is S$1.

Second hint

Start with the old price, add the increase, then compare that total with each budget.

Marking guide

Calculation, 1 mark. S$100 × 1.02 = S$102.

Comparison, 1 mark. The original budget is S$2 short.

New condition, 1 mark. The S$102 budget covers the basket exactly. The price is still S$2 higher than a year earlier.

Explanation, 1 mark. For instance: “Singapore’s core inflation eased from 2.2% in August to 2.0% in September, so core prices were still higher than a year earlier. In our example, the basket rose from S$100 to S$102.”

If you assumed every breakfast rose by 2%, remember that the index averages many prices.

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