Revised Evaluation

Rooftop Garden Project

Supplementary Note — Diagram Submitted Separately

What Changed and Why

The original evaluation assumed no diagram was submitted because none appeared in the PDF. The diagram was submitted separately as an image file. Counting every square in that diagram reveals something more significant than a missing drawing: the diagram is not merely correct — it is a precise graphical implementation of the Q4b proposal, accurate to the square. This changes both the Communication score for Q6 and, more importantly, the interpretation of the so-called 'cascading error' across the whole task.

Revised Overall Results

Category	Original	Revised	Change	Note
Knowledge & Understanding (Part A)	15/18	15/18	—	*Unchanged*
Thinking (Part B)	12/18	12/18	—	*Unchanged — see reinterpretation below*
Communication (Part C)	12/18	**14/18**	**+2**	*Q6 revised: diagram submitted, precise and correct*
Application (Part D)	11/18	11/18	—	*Unchanged*
TOTAL	50/72 (69%)	**52/72 (72%)**	**+2**	*Low Level 3 → solid Level 3*

Part C · Q6 Diagram Analysis — Square Count

Precise Square Count — What the Diagram Shows

Section	Colour	Squares counted	Diagram area (m²)	Q4b proposed area (m²)	Match?
Vegetables	*Green*	**24**	96 m²	96 m²	✓ **Exact match**
Herbs	*Purple*	**16**	64 m²	64 m²	✓ **Exact match**
Pollinator	*Blue*	**14**	56 m²	56 m²	✓ **Exact match**
Seating/Paths	*Yellow*	**6**	24 m²	24 m²	✓ **Exact match**
TOTAL	—	**60**	240 m²	240 m²	✓ **240 m² ✓**

What This Demonstrates

This level of precision — 24 squares for vegetables, 16 for herbs, 14 for pollinator, 6 for seating, totalling exactly 60 — is not a coincidence. It requires knowing the target area for each section, dividing by 4 m² to get the square count, and then designing a rectangular layout that exactly satisfies those constraints. This is genuine proportional reasoning applied to a spatial design problem. The diagram is the mathematical argument made visual.

The students understood both that each square = 4 m² and that their proposed fractions implied specific areas. They worked backwards from their proposal to a grid layout with integer square counts and no remainder. That is sophisticated, even if it used the wrong set of starting areas.

Revised Q6 Assessment — 7 / 10 (was 6 / 10)

What earns marks ✓	What is still missing △
✓ Four sections clearly delineated with distinct colours and letter codes ✓ Colour legend provided at top of diagram ✓ Total area exactly 240 m² (60 squares × 4 m²) ✓ Sections are compact rectangular regions — logical, non-overlapping layout ✓ Proportions exactly match Q4b proposed areas (precise integer square counts) ✓ Scale noted: each square = 2 m × 2 m, area = 4 m²	△ No m² labels on the diagram itself — the question required each section labelled with its area in m² △ No fraction labels on the diagram — the question required each section labelled with its fraction of total △ Q6 explicitly states 'using the areas from Part A, Question 2' — the diagram uses Q4b areas (96, 64, 56, 24 m²) instead of Q2 areas (90, 60, 48, 42 m²)

Critical Reinterpretation — This Was a Design Decision, Not an Error

The Original Assessment — What It Said

Original framing (now revised)

The original evaluation described the use of Q4b areas in Q5, Q6, Q8, and Q9 as 'a single, persistent error' and a 'cascading consequence' of a careless decision made in Q4b. The conference question suggested was: 'What value did you use for the herb area, and why?'

The Revised Interpretation — What the Diagram Reveals

This was not careless — it was intentional

The diagram requires the student to know that vegetables = 24 squares, herbs = 16, pollinator = 14, seating = 6 — and to design a rectangular layout that satisfies all four constraints simultaneously. You cannot produce this diagram accidentally. It takes purposeful calculation: area ÷ 4 = squares, then find a rectangular region with that exact count.

Combined with the fact that Q5, Q8a, and Q8b all consistently used the Q4b values, the evidence points strongly to a deliberate choice: Student A and Student B decided that once they proposed a redesign in Q4b, they would apply that redesign throughout the rest of the task. They were implementing their proposal, not just answering isolated questions.

Two Ways to Read What Happened

Interpretation A — Persistent Error	Interpretation B — Intentional Design Choice
After Q4b the students accidentally carried the wrong values forward into Q5, Q8, and Q9 without noticing the instructions referred to the original design. **Evidence for this view:** • Q6 explicitly states 'use the areas from Part A Q2' • Q5 says 'the herb section' — implying the original design • The task is structured as four independent parts, not as a sequential redesign	After Q4b the students made a deliberate decision to apply their new design throughout the task. The diagram is the clearest evidence: it required precise calculation, not careless copying. **Evidence for this view:** • Diagram is precisely accurate to Q4b values — requires intentional calculation • All four subsequent uses of Q4b values are consistent, not erratic • The redesign shows coherent reasoning: 'if we change the plan, the whole plan changes'

	• No other errors in arithmetic or method — this is not a pattern of carelessness

What This Means for the Assessment

Regardless of which interpretation is correct, the marks are not substantially different — the task instructions say to use Part A Q2 areas and those instructions were not followed. But the feedback, the level descriptor language, and the conference questions must change. A student who made a deliberate, mathematically consistent decision to implement a redesign throughout a performance task is demonstrating a different (and arguably more sophisticated) kind of thinking than a student who simply forgot to re-read the question.

The conference question is no longer 'What value did you choose and why?' — it is 'I can see from your diagram that you applied your Q4b redesign consistently throughout the task. Was that a deliberate decision? Because if it was, here is why it cost you marks, and here is what you would do differently next time.'

Part C · Communication — Revised Feedback 14 / 18 · Level 3+

Strengthening: The Diagram Is Genuinely Strong

The diagram you submitted is not just present — it is mathematically precise. Counting the squares: vegetables = 24 squares (96 m²), herbs = 16 (64 m²), pollinator = 14 (56 m²), seating = 6 (24 m²), total = 60 squares = 240 m². Every section is accurate to your Q4b proposal. This required knowing that area ÷ 4 = number of squares, then designing a compact rectangular layout that satisfies all four constraints at once. That is spatial reasoning combined with proportional thinking, and it is well done.

Growing: Two Things Still Missing From the Diagram

The question asked for each section to be labelled with three things: its name, its area in m², and its fraction of the total. Your diagram shows the sections through colour-coding and letters, which is clear — but the m² values and fractions are not written directly onto the diagram. Adding those labels, even briefly (e.g. 'V = 96 m² = 2/5'), would make the diagram a complete mathematical statement that a reader could interpret without referring to your written work.

Growing: The Question Said 'Part A, Question 2 Areas'

Question 6 includes a specific instruction: **"using the areas from Part A, Question 2."** That means vegetables = 90 m² (not 96), herbs = 60 m² (not 64), pollinator = 48 m² (not 56), seating = 42 m² (not 24). Your diagram uses your Q4b proposed areas instead. The mathematical work to build the diagram is the same either way — and you clearly know how to do it. Next time: check which specific area the question asks you to use before you start drawing.

Revised Feedback Conference Questions

These replace the conference questions in the original evaluation:

Opening — establish the decision

I looked at your diagram very carefully and I counted every square. Vegetables = 24 squares = 96 m², herbs = 16 squares = 64 m², pollinator = 14 squares = 56 m², seating = 6 squares = 24 m². Those numbers match exactly what you proposed in Question 4b. Was that a deliberate decision — to apply your new design to the rest of the task?

If yes — affirm the thinking, name the cost

That is actually sophisticated design thinking — you said 'if we change the plan, the plan should change everywhere.' The issue is that Question 6 says to use 'the areas from Part A, Question 2.' So the mathematical work was right, the reasoning was consistent, but the instruction wasn't followed. What would you do differently?

If unsure — make the connection visible

Look at your Q4b areas: vegetables 96, herbs 64, pollinator 56, seating 24. Now look at your diagram: 24 squares of vegetables (24 × 4 = 96), 16 of herbs (16 × 4 = 64). Does that look like a coincidence to you? You clearly worked these out. Where did those numbers come from?

For both — the transferable habit

In any multi-part task, when one question asks you to 'use your answer from...' it is worth pausing to identify exactly which answer it means. Questions 5, 8, and 9 all referred to the original design. How might you flag that for yourself in the middle of a task?

Extending — what this reveals about your capability

The fact that your diagram is this precise tells me something: you can work backwards from an area to a grid layout and you can satisfy multiple spatial constraints at once. That skill has a name — optimization — and it is an important one. Can you explain how you figured out the shape of each section?

Revised Priority Next Steps

Priority	What to Address
Read the specific question instruction	Before starting any calculation, identify exactly which values the question refers to. 'The herb section' in Q5, 'the areas from Part A Q2' in Q6 — these are anchors. Practise underlining the specific reference in multi-part tasks before calculating.
Label diagrams completely	A mathematical diagram must be self-contained: name, m², and fraction on every section. Even '96 m² = 2/5' in small text inside the section covers all three requirements. The diagram earns full Communication marks when a reader doesn't need to look anywhere else to understand it.
Complete all sub-parts before moving on	Q8(d) asked for both the dollar amount AND the percentage overspent. The percentage was not calculated. Develop the habit of numbering sub-parts in your answer (a, b, c, d) and checking each before moving to the next question.
Refine three-form representation	Q9(a): each classroom's share is 1/6 of the total harvest (not '54/6' which is a calculation). Decimal: 1/6 ≈ 0.167. Mixed number applies when the share is non-whole — practise with cases like 7÷4, 11÷3 to build fluency with all three forms.

Revised Overall Teacher Comment

Student A and Student B — 52/72 — Solid Level 3

The diagram submission changes how this task should be read. The precision of that diagram — every section laid out to exactly the right square count — is evidence of mathematical thinking that goes beyond procedural competence. These students grasped that their Q4b proposal implied new areas, calculated those areas, converted them to grid squares, and built a layout that satisfies all four spatial constraints simultaneously. That is not easy.

The marks lost were mostly lost for the same underlying reason: instructions that pointed to the original design were not followed, and a small number of multi-part questions were only partially answered. These are habits of reading and task management — genuinely easy to address with explicit attention. The mathematics itself is sound, the reasoning is coherent, and the diagram reveals a spatial and proportional thinking skill that was not visible in the PDF alone.