Map Hairstyles onto a Proportion Grid: A Cell-by-Cell Drawing Method

Original tasks 1, 2 / complete keys

Task 1

On a 6 by 8 grid, a hairstyle outline spans columns A to D (4 columns) and rows 1 to 5 (5 rows). Row 2 has two S cells. Your copy spans columns A to D and rows 1 to 6, with two S cells in row 2. What is the likely error and how do you check it?

Answer: The copy is one row too tall vertically. Check row 6 for outline cells that should not be marked, compare row spans (reference 5 rows, copy 6 rows), and remove any incorrect row 6 marks. Recount to confirm 5 rows.

Reason: Horizontal span matches at 4 columns, and S count matches at two in row 2. The only mismatch is vertical span, so the error is an extra row.

Check: Count rows from top to bottom for both reference and copy; confirm both span 5 rows after correction.

Task 2

A reference map has O marks in cells B2, B3, C3, C4, and D4, and S marks in C3 and D4. Describe how you would copy these cells onto a blank matching grid and what you would check after copying.

Answer: Copy each cell in row order: B2 O, B3 O, C3 O and S, C4 O, D4 O and S. After copying, check that each labelled cell contains the same symbol and that connected outline segments run from B2 through B3 to C3 to C4 to D4. Count O marks (5) and S marks (2) to confirm completeness.

Reason: Row-order copying prevents skipping cells, and symbol counts provide a simple completeness check.

Check: Compare symbol counts per cell and total O and S counts with the reference; verify connected segments cross cell boundaries at the same labelled positions.

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Original tasks 3, 4 / complete keys

Task 3

You are mapping a hairstyle with a hairline curve that enters cell C2, exits at C3, and re-enters at D3. How would you mark these cells, and how would you document a borderline decision about whether the curve touches D2?

Answer: Mark C2, C3, and D3 with O. For D2, decide whether any part of the curve enters the cell; if it does, mark O and note the reason in your key. If it does not, leave D2 blank and note that the curve passes close but does not enter. Either choice is valid if documented and applied consistently.

Reason: The convention marks a cell when the outline enters it. Borderline cases require a documented decision so the map remains consistent.

Check: Review the key note and confirm the same borderline rule is applied to similar cells elsewhere in the map.

Task 4

A copy has three S cells in row 4, but the reference has four. The horizontal span matches at 5 columns and the vertical span matches at 6 rows. What steps do you take to find and fix the missing landmark?

Answer: Compare row 4 cell by cell between reference and copy. Identify the labelled cell where the reference has S but the copy does not. Check whether the strand group start, end, or direction change was omitted, add the S mark, and recount row 4 to confirm four S cells.

Reason: Spans match, so proportion is likely correct; the mismatch is isolated to strand landmarks in one row. Cell-by-cell comparison locates the omission.

Check: Recount S cells in row 4 and compare with the reference count of four; also verify neighbouring rows are unchanged.

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Source rubric / reflection

- [ ] Grid is measured and labelled consistently with columns and rows.
- [ ] Convention for O and S symbols is stated and applied consistently.
- [ ] Outline cells are mapped without unexplained gaps.
- [ ] Strand landmarks are limited to major groups and recorded accurately.
- [ ] Copy matches reference span counts within one cell horizontally and vertically.
- [ ] S cell counts per row match the reference or differences are explained.
- [ ] Borderline decisions are documented and consistent.
- [ ] Valid alternative mappings are accepted when the convention is clear and applied uniformly.

Reflection: What did you check, what did you change, and what will you try next?