Draw a Fantasy Map: Coastlines, Terrain Symbols, and Legend

Original tasks 1, 2, 3 / complete keys

Task 1

A map frame is 12 cm by 18 cm. A legend box 3 cm by 5 cm is placed inside the frame. Calculate the remaining drawing area inside the frame.

Answer: Frame area is 12 times 18 equals 216 square centimetres. Legend area is 3 times 5 equals 15 square centimetres. Remaining drawing area is 216 minus 15 equals 201 square centimetres.

Reason: Multiply length by width for each rectangle, then subtract the legend area from the frame area because the legend sits inside the frame.

Check: Re-measure the frame and legend with a ruler, recalculate both areas, and confirm the subtraction gives 201 square centimetres.

Task 2

A coastline contour guide is drawn as two separate open lines that almost meet. State the fix and the check you would use.

Answer: Join the two open lines into one closed contour. Check by tracing the coastline with your finger; if you can trace it without lifting your finger and without crossing it, the fix passes.

Reason: A coastline is a boundary between water and land, so it must be continuous. Two open lines leave an ambiguous gap where water and land are not separated.

Check: Trace the entire coastline once; count the number of times you lift your finger. The count should be zero.

Task 3

A map uses mountain, forest, and swamp symbols. The legend lists mountain, forest, swamp, and desert. The desert symbol does not appear on the map. State the consistency problem and one valid fix.

Answer: The legend has an entry with no matching map symbol. One valid fix is to remove the desert row from the legend. Another valid fix is to add at least one desert symbol inside a land region and keep the legend row.

Reason: The legend should describe the map. An unused legend entry misleads the reader, while a missing map symbol leaves the legend incomplete.

Check: For each legend row, locate the symbol on the map. Count legend rows and count symbol types used on the map; the two counts should match after the fix.

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Original tasks 4 / complete keys

Task 4

A scale bar is drawn as five equal segments. You measure the whole bar as 5 cm and decide one segment equals two days of travel. State the scale in days per centimetre and check the arithmetic.

Answer: Five segments equal 5 cm, so one segment is 1 cm. One segment equals two days, so the scale is two days per centimetre. Check: 5 cm times two days per centimetre equals ten days for the whole bar, and five segments times two days per segment equals ten days.

Reason: Divide the total bar length by the number of segments to find one segment length, then attach the chosen unit to that segment. Multiply back to verify the total.

Check: Measure the bar again with a ruler, confirm it is 5 cm, and multiply 5 by 2 to get 10 days; then multiply 5 segments by 2 days to get the same total.

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Source rubric / reflection

- [ ] Coastline is a continuous closed contour inside the frame or clearly continued beyond it.
- [ ] At least three terrain symbols are defined in words and repeated in clusters.
- [ ] Every terrain symbol on the map appears in the legend, and every legend entry appears on the map.
- [ ] Legend labels are short and match the drawn symbols.
- [ ] Symbols are placed inside the correct region (land or water) according to the stated convention.
- [ ] Any scale bar is measured with a ruler and labelled with a hypothetical unit.
- [ ] Valid alternatives are accepted if the legend defines the symbol actually used.

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