Shell Contour Drawing: Outline and Interior Ridge Lines

Original tasks 1, 2, 3 / complete keys

Task 1

A shell widest span is a hypothetical 10 cm. Your drawn span is 9 cm. Calculate the difference and state whether it is within a stated tolerance of 2 cm.

Answer: Difference is 1 cm, which is within the 2 cm tolerance.

Reason: Subtract the smaller span from the larger span in the same unit: 10 cm minus 9 cm equals 1 cm. Compare 1 cm with the stated tolerance of 2 cm.

Check: Re-measure both spans with the same ruler and confirm the subtraction.

Task 2

You see 8 interior ridge lines on the shell and draw 8, but one drawn ridge crosses another without a clear junction. Name the check that fails and one fix.

Answer: The junction clarity check fails; fix by deciding which ridge is in front and redrawing that line continuously through the junction.

Reason: Contour lines should show which edge or ridge is in front at a crossing. An unclear crossing makes the ridge structure ambiguous.

Check: Trace each crossing with a finger and confirm one line is continuous and the other stops or passes behind.

Task 3

In a blind contour box, your line leaves the box and returns. Is this a mistake under the blind contour convention? Explain using the convention.

Answer: No, it is acceptable because blind contour requires looking only at the shell, not at the paper.

Reason: The blind contour convention prioritizes observation over placement. Leaving the box is expected when you do not look at the paper.

Check: Confirm the time limit was observed and that your eyes stayed on the shell during the pass.

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Original tasks 4 / complete keys

Task 4

You choose a broken-line convention for interior ridges. You draw 5 ridges with breaks and 2 ridges as continuous lines. State whether the convention is consistent and what to record beside the box.

Answer: The convention is not consistent; record that 5 ridges use broken lines and 2 use continuous lines, then redraw the 2 continuous ridges as broken lines or state a rule for when continuous lines are allowed.

Reason: A convention must be applied consistently or clearly explained. Mixing styles without a rule makes the ridge structure harder to check.

Check: Count broken-line ridges and continuous-line ridges separately and compare with your stated rule.

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Source rubric / reflection

- [ ] Outer edge is drawn as a continuous line or a clearly stated broken-line convention.
- [ ] Interior ridge lines are drawn as lines, not shading.
- [ ] Ridge count is recorded and compared with visible ridges.
- [ ] Span difference is calculated in consistent units and compared with a stated tolerance.
- [ ] Blind contour box shows evidence of looking only at the shell during the timed pass.
- [ ] Convention for line weight or broken lines is stated and applied consistently.

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