Contour Drawing of Skis and Boots: A Line-Only Study

Original tasks 1, 2, 3 / complete keys

Task 1

A ski is 140 cm long and the boot is 25 cm long. At a scale of 1:7, calculate the drawing lengths and state the boot-to-ski ratio.

Answer: Ski drawing length is 140 divided by 7, or 20 cm. Boot drawing length is 25 divided by 7, or about 3.57 cm. The ratio is 25 divided by 140, or about 0.18.

Reason: Convert each measured length by dividing by the scale factor, then compute the ratio from the original measurements.

Check: Multiply the drawing lengths by 7 to recover 140 cm and 25 cm; confirm the ratio by dividing 25 by 140.

Task 2

Describe the contour order for a ski with a curved tip and a flat tail, and a boot with a visible cuff seam. Include one continuity check.

Answer: Draw the curved tip as a smooth arc, continue along the top edge to the flat tail, close the tail to the base line, then draw the base line back to the tip. Draw the boot sole on the ski top, then the cuff seam as a separate internal line. Continuity check: trace the tip arc with your finger; it should not reverse direction.

Reason: The outer contour must close before internal seams are added; the tip arc is the most likely place for a break.

Check: Trace each closed contour with a finger and mark any reversal; redraw from the nearest smooth point.

Task 3

A boot cuff is 12 cm above the ski top. At a scale of 1:6, how many centimeters above the baseline should the cuff line be drawn? Show the arithmetic.

Answer: 12 divided by 6 equals 2 cm. Draw the cuff line 2 cm above the ski top baseline.

Reason: Vertical measurements use the same scale factor as horizontal measurements when the drawing is uniform.

Check: Measure the drawn cuff height and multiply by 6; it should equal 12 cm.

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Original tasks 4 / complete keys

Task 4

Your drawn ski is 18 cm long and your drawn boot is 3 cm long. The actual ski is 144 cm. What is the scale, and what actual boot length does the drawing imply?

Answer: Scale is 144 divided by 18, or 1:8. The implied boot length is 3 times 8, or 24 cm.

Reason: Scale is actual length divided by drawing length; apply the same factor to the boot.

Check: Divide 144 by 18 to confirm 8, then multiply 3 by 8 to confirm 24 cm.

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Source rubric / reflection

- [ ] Contour continuity: no unintended breaks at tip, tail, or boot.
- [ ] Proportion: boot-to-ski ratio matches measured values within 5 percent.
- [ ] Alignment: boot sole meets ski top within the stated tolerance.
- [ ] Convention: no shading, no perspective, one continuous line per closed contour.
- [ ] Valid alternatives: line weight and minor curve style may vary if checks pass.

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