Realistic Foot Drawing: Proportion, Arch, and Shading

Original tasks 1, 2, 3 / complete keys

Task 1

A reference foot is 24 cm heel-to-longest-toe. Using the hypothetical fractions, calculate ankle center, arch peak, and ball positions in centimeters.

Answer: Ankle center 4.32 cm, arch peak 10.8 cm, ball 16.8 cm from the heel.

Reason: Multiply L = 24 cm by 0.18, 0.45, and 0.70 respectively. Keep one unit and express results in centimeters.

Check: Verify each product and confirm the values increase from heel to toe: $4.32 < 10.8 < 16.8 < 24$.

Task 2

A side-view sketch has heel back at 0L, arch peak at 0.45L, and ball at 0.70L. The sole line is drawn straight from heel to ball. Describe the correction and state one check.

Answer: Replace the straight sole line with a curve that rises to the arch peak at 0.45L and descends to the ball at 0.70L. Check that the peak lies between heel and ball.

Reason: The arch is a curve, not a straight line; the peak fraction defines where the curve changes direction.

Check: Measure the peak position as a fraction of L and confirm it is between 0 and 0.70L, closer to the middle.

Task 3

You record toe tips at 1.0L, 0.97L, 0.94L, 0.90L, and 0.85L. A classmate draws them in a straight line. Explain why this fails the convention and give a fix.

Answer: A straight line ignores the recorded fractions and the smooth curve. Fix by plotting each tip at its fraction and connecting them with a gentle curve.

Reason: The convention requires measured fractions and a smooth curve; a straight line contradicts both.

Check: Compare each plotted tip to its recorded fraction and confirm the tips form a curve rather than a line.

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Original tasks 4 / complete keys

Task 4

With light from upper left, you shade the top plane light, the side plane mid, and the underside dark. A reviewer says the side plane looks equal to the top. State a correction and a check.

Answer: Darken the side plane until it reads clearly darker than the top plane, keeping the underside darkest. Check by squinting to compare values.

Reason: Plane changes must show visible value contrast; equal values flatten the form.

Check: Squint at the drawing and confirm the order light > mid > dark from top to side to underside.

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Source rubric / reflection

- [ ] Landmarks are recorded as fractions of L with one consistent unit.
- [ ] Baseline, midline, and baseline-to-midline convention are stated before drawing.
- [ ] Toe tips follow the measured order and form a smooth curve.
- [ ] Arch peak lies between heel and ball and the sole line curves.
- [ ] Shading uses three values assigned to top, side, and underside planes.
- [ ] Check method is applied and any adjustments are noted.

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