Shoe and Foot Drawing Practice: Fit, Outline, and Proportion

Original tasks 1, 2, 3 / complete keys

Task 1

A foot outline is 10 cm long and 3 cm wide at the ball. The heel-to-ball distance is 6 cm, and the baseline-to-midline distance at the ball is 3 cm. Using a hypothetical margin of 0.5 cm, calculate the shoe length and width, and state the x-height.

Answer: Shoe length is about 11 cm (10 + 0.5 + 0.5). Shoe width is about 4 cm (3 + 0.5 + 0.5). X-height is 3 cm, taken from the baseline-to-midline distance at the ball, not from the foot width.

Reason: Apply the margin at both ends for length and both sides for width. X-height is the baseline-to-midline distance at the ball; it is a vertical measurement and is given separately from the horizontal foot width.

Check: Verify heel-to-ball divided by heel-to-toe is 6/10 = 0.6, close to two-thirds. Check units are consistent.

Task 2

A foot outline is 14 cm long. The heel-to-ball distance is 9 cm. What is the ratio of heel-to-ball to heel-to-toe, and is it close to two-thirds?

Answer: The ratio is 9/14 ≈ 0.64, which is close to two-thirds (0.67).

Reason: Divide heel-to-ball by heel-to-toe. Compare to 0.67.

Check: Use simple division and compare to 2/3. Record the ratio in the practice box.

Task 3

A shoe overlay is 13 cm long and 5 cm wide. The foot outline is 11 cm long and 3 cm wide. What is the margin at each end and each side if the margin is consistent?

Answer: Margin at each end is (13 - 11)/2 = 1 cm. Margin at each side is (5 - 3)/2 = 1 cm.

Reason: Subtract foot dimension from shoe dimension and divide by two for consistent margins.

Check: Check that shoe length minus foot length equals twice the margin, and same for width.

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Original tasks 4 / complete keys

Task 4

A foot outline has foot width 4 cm at the ball and heel-to-toe length 12 cm. The baseline-to-midline distance at the ball is 3 cm. If the shoe margin is 1 cm, what is the shoe width at the ball, what is the shoe length, and what is the x-height?

Answer: Shoe width is 6 cm (4 + 1 + 1). Shoe length is 14 cm (12 + 1 + 1). X-height is 3 cm, taken from the baseline-to-midline distance at the ball.

Reason: Add the margin on both sides for width and both ends for length. Use the given foot width for shoe width, and use the baseline-to-midline distance for x-height; do not substitute one for the other.

Check: Verify shoe width minus foot width equals 2 cm, and shoe length minus foot length equals 2 cm. Confirm x-height was read from the baseline-to-midline distance, not from foot width.

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Source rubric / reflection

- [ ] Foot outline includes heel, ball, and toe marks.
- [ ] Shoe overlay touches foot outline at heel, ball, and toe.
- [ ] Outer margin is consistent and labeled as a hypothetical example.
- [ ] X-height is measured from baseline to midline and recorded.
- [ ] Proportion check shows heel-to-ball is about two-thirds of heel-to-toe.
- [ ] Units are consistent and measurements are recorded in the practice box.
- [ ] Valid alternatives in letter style are accepted.

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