Negative Space Stool Drawing: Leg Gaps and Seat Contour

Original tasks 1, 2, 3 / complete keys

Task 1

A stool outline has a seat width of 40 cm and leg height of 60 cm. The bottom leg gap is 16 cm and the top leg gap is 10 cm. What is the simplified seat-to-leg ratio and the simplified gap ratio?

Answer: Seat-to-leg ratio: 40:60 simplifies to 2:3. Gap ratio: 16:10 simplifies to 8:5.

Reason: Divide both numbers by their greatest common divisor. For 40 and 60, the divisor is 20, giving 2:3. For 16 and 10, the divisor is 2, giving 8:5.

Check: Multiply the simplified ratios back: 2×20=40 and 3×20=60; 8×2=16 and 5×2=10. The original numbers are recovered.

Task 2

You shade a stool drawing. The background is medium gray, the front leg gap is dark gray, and the back leg gap is light gray. The stool is white. Which gap is in front, and why?

Answer: The front leg gap is the dark gray one, because darker shading in the front gap is a depth cue that suggests it is closer to the viewer.

Reason: In this convention, the front gap is shaded slightly darker than the back gap to show depth. The light gray back gap reads as farther away.

Check: Compare the two gap tones. The darker tone should be the gap you intend as front. If the tones are reversed, swap them.

Task 3

A stool drawing has a seat width of 25 cm and leg height of 50 cm. The bottom leg gap is 10 cm and the top leg gap is 5 cm. A learner shades the gaps but makes both gaps the same width. What proportion error did they make, and how can they check it?

Answer: They ignored the narrowing gap ratio. The correct gap ratio is 10:5, or 2:1, so the bottom gap should be twice as wide as the top gap. They can check by measuring the shaded gap widths with a ruler and comparing them to 2:1.

Reason: The measured gaps narrow from bottom to top. Shading them as equal widths loses the depth cue and the proportion. The seat-to-leg ratio is 25:50, or 1:2, which is separate from the gap ratio.

Check: Measure the bottom gap and top gap in the drawing. Divide the bottom width by the top width. The result should be close to 2. If it is close to 1, the gaps are too equal.

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Original tasks 4 / complete keys

Task 4

Describe how to use tracing paper to check a negative-space stool drawing. Include what you shade and what you compare.

Answer: Place tracing paper over the stool outline. Shade the background and leg gaps on the tracing paper, leaving the stool white. Then place the tracing paper over the original outline and compare the shaded gap shapes to the outline. Check that the gaps narrow from bottom to top and that the seat contour remains clear.

Reason: Tracing paper lets you test the negative-space shapes without altering the original drawing. Comparing the shaded gaps to the outline shows whether the gap shapes match the stool's proportions.

Check: Look for white stool legs and a white seat on the tracing paper. Measure the shaded gap widths and compare them to your recorded ratios. If a gap is too wide or too narrow, adjust the shading.

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Source rubric / reflection

- [ ] The stool is left white and the background and leg gaps are shaded.
- [ ] The seat contour is clear without a drawn dark outline.
- [ ] The leg gaps narrow from bottom to top in a ratio close to the measured ratio.
- [ ] The front leg gap is slightly darker than the back gap to show depth.
- [ ] Measurements are recorded in consistent units and labeled as the learner's own measurements.
- [ ] Valid alternative shading styles are accepted if the convention is followed.

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