Draw a Realistic Sleigh: Runner Curves, Body Proportion, and Depth Shading

Original tasks 1, 2, 3 / complete keys

Task 1

On a 15 cm wide area, place runner contacts on the baseline at 1 cm and 14 cm. Sketch the runner arc so it rises above the baseline with its highest point at 7.5 cm. Add a parallel upper curve 0.4 cm above. Describe your arc.

Answer: A shallow arc from the contact at 1 cm to the contact at 14 cm, rising above the baseline with its highest point at 7.5 cm, plus a parallel curve 0.4 cm above.

Reason: The contacts define the runner length; placing the highest point at the center keeps the curve shallow and balanced. The parallel curve gives thickness.

Check: Measure the highest point; it should be near the center and only slightly above the contacts. The upper curve should be evenly spaced and should not dip below the baseline.

Task 2

Draw a body rectangle 9 cm wide and 3 cm tall above a runner. Divide it into thirds and curve the front and rear panels outward. State the width-to-height ratio.

Answer: The ratio is 3:1. The rectangle is divided into three 3 cm sections, and the panels curve outward within the rectangle.

Reason: A 3:1 ratio keeps the body proportionate. Dividing into thirds locates the panels and seat area.

Check: Measure width and height; divide width by height to confirm 3. Check that curves stay inside the rectangle.

Task 3

Shade a curved panel with light from the upper left. Use three tone values. Describe where each tone goes.

Answer: Light tone on the upper-left highlight, medium tone on the middle, dark tone on the lower-right shadow and curve edge.

Reason: A single light source creates a gradient across the curve. Three tones build depth without overcomplicating.

Check: Squint at the panel; it should read as curved. Check that the darkest tone is on the side opposite the light source.

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Original tasks 4 / complete keys

Task 4

Add three evenly spaced support struts between a runner and body. The runner is 16 cm long and the body is 12 cm wide. Place the struts within the body footprint and state the spacing.

Answer: Place struts at 4 cm, 8 cm, and 12 cm measured from the body's left edge, spacing them 4 cm apart. They sit within the 12 cm body width, not across the full 16 cm runner.

Reason: Even spacing distributes support. The body is shorter than the runner, so struts stay within the body width rather than spanning the full runner.

Check: Measure the distances between struts; they should be equal at 4 cm. Confirm all three struts fall within the 12 cm body width and connect runner to body without crossing panels.

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Source rubric / reflection

- [ ] Runner curve is shallow, smooth, and continuous.
- [ ] Body width is approximately three times its height.
- [ ] Front and rear panels curve within the proportion rectangle.
- [ ] Shading uses a consistent light source and at least three tone values.
- [ ] Support struts are evenly spaced and connect runner to body.
- [ ] Labels follow the baseline-to-midline convention; letter styles may vary.

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