Draw an Upside-Down Light Bulb: Orientation Practice

Original tasks 1, 2, 3, 4 / complete keys

Task 1

In a 12 cm by 16 cm frame, the neck is 6 cm above the bottom edge. The base is 3 cm tall above the neck. What is the distance from the bottom edge to the top of the base?

Answer: 9 cm.

Reason: Add the neck height and base height: 6 cm + 3 cm = 9 cm.

Check: Measure the same two distances on your drawing and add them; the sum should match 9 cm.

Task 2

A base is 4 cm tall and you draw four evenly spaced bands. What is the spacing between band lines as a hypothetical example?

Answer: 1 cm.

Reason: Divide the base height by the number of bands: 4 cm divided by 4 equals 1 cm.

Check: Measure each gap between adjacent bands; each should be about 1 cm.

Task 3

Your drawing has the base top 3 cm from the top edge and the bulb bottom 5 cm from the bottom edge. Is the orientation correct for an upside-down light bulb? Explain.

Answer: Yes, because the base is nearer the top and the bulb is nearer the bottom.

Reason: In the inverted view, the banded base points up and the rounded bulb points down. The smaller top distance for the base confirms this.

Check: Compare the two measured distances; the base distance should be smaller than the bulb distance.

Task 4

A bulb widest point is 0.8 cm left of the center line and the base center is on the center line. Does this meet a 0.5 cm centering tolerance? What should you adjust?

Answer: No. Move the bulb widest point about 0.8 cm right so it aligns with the center line.

Reason: The offset 0.8 cm is greater than the hypothetical 0.5 cm tolerance, so centering fails.

Check: Measure the horizontal distance from the bulb widest point to the center line; it should be 0.5 cm or less.

Draw an Upside-Down Light Bulb: Orientation Practice

Source rubric / reflection

- [ ] Orientation: bulb rounded end points down and base bands point up.
- [ ] Neck placement: bulb and base meet at one clear neck line.
- [ ] Base bands: at least three horizontal bands, evenly spaced within the measured base height.
- [ ] Centering: bulb widest point and base center align on one vertical line within about 0.5 cm as a hypothetical tolerance.
- [ ] Completeness: closed bulb outline and closed base rectangle with no missing bands.
- [ ] Valid alternatives: different bulb roundness or band count are acceptable if orientation and even spacing are correct.

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