Drawing Ellipses on Round Objects in Still Life

Original tasks 1, 2 / complete keys

Task 1

A bowl rim viewed from above looks four finger-widths wide and two finger-widths tall. Describe how to draw its ellipse and state the width-to-height ratio.

Answer: Draw a horizontal long axis four finger-widths wide and a vertical short axis two finger-widths tall, crossing at the center. Sketch smooth arcs through the four endpoints. The ratio is 4 divided by 2, or 2:1.

Reason: The long axis follows the widest visible span; the short axis follows the nearest-to-farthest span. Dividing long by short gives a checkable ratio using the same unit.

Check: Measure the drawn long and short spans with the same unit and confirm the ratio is about 2:1; check that both ends of each axis are rounded.

Task 2

A bottle stands upright and is seen from slightly above. Its top rim ellipse is three units wide and one and a half units tall. Its bottom ellipse is partly hidden. Describe how to place the bottom ellipse using vertical projection lines.

Answer: Draw the top ellipse with a horizontal long axis of three units and a vertical short axis of one and a half units. Project two light vertical lines from the widest points of the top ellipse down to the base. Draw the bottom ellipse between those lines, making it narrower than the top ellipse, for example two and a half units wide and one unit tall, but measure your own object.

Reason: On an upright cylinder, top and bottom ellipses share vertical alignment. From above, the bottom ellipse appears narrower because less of the base circle is visible.

Check: Confirm the vertical projection lines touch the widest points of both ellipses; compare the bottom ellipse's ratio to your observation and check symmetry.

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Original tasks 3, 4 / complete keys

Task 3

A round bowl has a painted band that appears as an ellipse on its curved surface. The band looks five units wide and two units tall. Describe where to place the short axis and how to check the curve.

Answer: Mark the long axis five units wide across the visible band. Mark the short axis two units tall, pointing toward the bowl's center. Sketch smooth arcs through the endpoints. Check that the short axis points toward the center and that the curve sits on the bowl's curvature without flattening.

Reason: A feature on a sphere appears as an ellipse whose short axis points toward the sphere center. The ratio five to two gives a checkable proportion.

Check: Measure the drawn spans in the same unit and confirm a ratio near 5:2; check symmetry across both axes and confirm the ellipse follows the bowl's curve.

Task 4

Two cups sit at different distances. The front cup rim looks three units wide and one and a half units tall. The back cup rim looks two units wide and one unit tall. State both ratios and explain whether they must be identical.

Answer: The front ratio is 3 divided by 1.5, or 2:1. The back ratio is 2 divided by 1, or 2:1. They happen to match here, but they do not have to; compare each ellipse to what you actually see rather than forcing a single ratio.

Reason: Ratios are checks based on observation. Different distances, heights, or tilts can produce different ratios, so matching ratios are not a universal rule.

Check: Measure each drawn ellipse with the same unit and confirm its ratio matches its own observed object; check symmetry for each ellipse separately.

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Source rubric / reflection

- [ ] Ellipse curves are smooth and rounded at both axis ends, with no pointed corners.
- [ ] Long and short axes are marked and cross near the ellipse center.
- [ ] The drawn width-to-height ratio matches the measured or observed ratio within a reasonable margin.
- [ ] Symmetry checks across both axes show balanced halves.
- [ ] Top and bottom ellipses on a cylinder agree with the viewpoint and overlap cleanly.
- [ ] Axis guides remain light and do not dominate the final drawing.

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