Baroque Drawing: Dome, Volute and Ornament Construction

Original tasks 1, 2 / complete keys

Task 1

In a 10 cm by 14 cm frame, use the bottom edge as baseline y=0 and set the spring line at y=10 cm and top guide at y=14 cm. Draw a centered half-ellipse dome 6 cm wide and 4 cm high. Mark the midline and check symmetry at the base, halfway up, and crown using a 2 mm tolerance (hypothetical).

Answer: The frame midline is x=5 cm. Set the dome base from x=2 to x=8 at y=10 cm and its crown at (5,14), giving a 6 cm width and 4 cm height. At the base, halfway up the arc, and crown, compare left and right distances from x=5; each pair should differ by no more than 2 mm.

Reason: The prompt fixes the vertical placement, while the midline fixes the horizontal center. Equal left and right offsets at the three checks show that the half-ellipse remains centered.

Check: Measure both sides from x=5 at y=10, y=12, and y=14 cm. Confirm equal offsets within 2 mm and confirm the crown is at y=14.

Task 2

In a 12 cm wide frame with centerline x=6, draw mirrored connected volutes. Use left outer center (3,2), its mirror (9,2), and radii 2, 1, and 0.5 cm for three quarter-turns. Measure x from the left edge and y upward from the baseline. Turn the left arcs counterclockwise and mirror them clockwise on the right; describe shifted centers and shared endpoints.

Answer: For the left scroll, draw radius 2 centered at (3,2) counterclockwise from (3,4) to (1,2). Continue counterclockwise with radius 1 centered at (2,2) from (1,2) to (2,1), then radius 0.5 centered at (2,1.5) from (2,1) to (2.5,1.5). Mirror the centers and endpoints across x=6; the right arcs turn clockwise from (9,4) to (11,2), then to (10,1), then (9.5,1.5). Each endpoint is also the next arc's start.

Reason: Halving the radii alone does not connect arcs; shifting each center makes the next arc start at the previous endpoint. Reflection across x=6 produces the paired scroll.

Check: Check the left joins at (1,2) and (2,1), the mirrored right joins at (11,2) and (10,1), and radii 2, 1, 0.5 cm. Confirm each next arc starts at the previous endpoint, its center is the stated radius from both ends, and the two scrolls mirror across x=6.

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Original tasks 3 / complete keys

Task 3

Draw an 8 cm ornament strip centered on its midline x=4, spanning x=0 to x=8. Divide it into four equal segments and place one simple leaf motif at each segment center, mirrored about x=4. Keep each motif inside its segment.

Answer: The segments are 2 cm wide, with centers at x=1, 3, 5, and 7. Place one leaf at each center; pair x=1 with x=7 and x=3 with x=5 as mirror positions about x=4. Keep each leaf within its 2 cm segment.

Reason: An 8 cm strip divided into four equal parts gives 8÷4=2 cm per segment. The centers are equally spaced and reflected pairs have equal distances from x=4.

Check: Measure each segment as 2 cm. Confirm centers at 1, 3, 5, and 7 cm and equal mirrored distances from x=4; keep each motif inside its own segment.

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Original tasks 4 / complete keys

Task 4

Combine a centered dome 7 cm wide and 4.5 cm high, volutes with outer radius 2.5 cm and half-radius reductions, and a 9 cm ornament strip in a 12 cm by 15 cm frame. Set centerline x=6 and dome spring line y=5.5; use outer volute centers (3,3) and (9,3) so the arcs join the spring line at (3,5.5) and (9,5.5). Place the strip from x=1.5 to 10.5 and y=1 to 3, divided into three segments. Describe the order and checks.

Answer: Use the 12 cm frame midline x=6. Set the dome spring line to y=5.5 cm and top guide to y=10 cm; a 4.5 cm dome reaches the guide. For the left volute use outer center (3,3): radius 2.5 runs from (3,5.5) to (0.5,3); radius 1.25 centered at (1.75,3) continues to (1.75,1.75); radius 0.625 centered at (1.75,2.375) continues to (2.375,2.375). The outer arc starts on the dome spring line at (3,5.5). Mirror these points across x=6 for the right scroll, where the outer arc starts at (9,5.5). The centers shift so each arc begins at the preceding endpoint. Draw the 9 cm strip from x=1.5 to x=10.5 and y=1 to y=3; divide it into three 3 cm segments with centers x=3,6,9. Place one 0.6 by 0.6 cm motif centered at y=2 in each segment; the outer pair mirror across x=6 and stay inside their segments. This strip sits behind the volutes. At any crossing, keep the scroll line continuous in front and stop the strip or motif line where it reaches that edge; never draw two strokes at the same boundary. Check dome symmetry, the shared arc joins and halved radii, and motif containment.

Reason: Constructing from the midline keeps the facade aligned. The volutes are the foreground decoration; the strip is behind them wherever their paths meet, so the visible scroll line stays continuous and coincident hidden strokes are omitted.

Check: Measure dome offsets at three heights; confirm the 2.5 cm outer arcs join the dome spring line at (3,5.5) and (9,5.5), the smaller 1.25 and 0.625 cm arcs share the listed endpoints and mirror across x=6; measure each ornament segment as 3 cm and keep each 0.6 by 0.6 cm motif inside its segment, centered at y=2. At any crossing, confirm the volute line is continuous and the strip/motif stroke stops at it.

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Source rubric / reflection

- [ ] Baseline, midline and top line are marked and labeled consistently.
- [ ] Dome is symmetrical about the midline within the chosen tolerance.
- [ ] Volute quarter-turn arcs use labeled shifted centers, meet at shared endpoints, continue smoothly, and mirror left to right.
- [ ] Ornament motifs stay within strip segments and are mirrored.
- [ ] The volute remains inside the frame and its center is labeled.
- [ ] All numerical values are labeled as hypothetical examples.
- [ ] At decoration overlaps, scroll contours remain continuous in front and strip or motif strokes stop at the scroll; shared dome/scroll joins are drawn once.

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