Shape Overlay Tracing: Simplified Outlines on Photo References

Original tasks 1, 2 / complete keys

Task 1

A photo box is 100 mm wide and 70 mm high. A rectangular mass is centered 30 mm from the left and 25 mm from the top. A circular mass is centered 70 mm from the left and 50 mm from the top. Draw a rectangle and a circle overlay, label them, and redraw on blank paper. Use a hypothetical threshold of 5 mm.

Answer: Rectangle center: (30, 25). Circle center: (70, 50). Labels: R and C. Redraw at same coordinates. Check horizontal gap: traced 40 mm, redraw 40 mm; vertical gap: traced 25 mm, redraw 25 mm. Differences 0 mm, within threshold. Score 9.

Reason: The rectangle matches the boxy mass; the circle matches the round mass. Coordinates are measured from the left and top edges in millimeters.

Check: Measure the redrawn centers from the same edges and subtract to find differences. Confirm all differences are within 5 mm.

Task 2

A photo box is 90 mm wide and 60 mm high. An oval mass is centered 25 mm from the left and 20 mm from the top. A second oval is centered 65 mm from the left and 40 mm from the top. Draw two ovals, label them O1 and O2, and redraw. Use a hypothetical threshold of 4 mm.

Answer: O1 center: (25, 20). O2 center: (65, 40). Redraw at same coordinates. Check horizontal gap: traced 40 mm, redraw 40 mm; vertical gap: traced 20 mm, redraw 20 mm. Differences 0 mm, within 4 mm. Score 9.

Reason: Two elongated masses suit ovals. Labels distinguish them. Measurements use millimeters from left and top edges.

Check: Measure redrawn centers and compare gaps. Confirm differences are within 4 mm.

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Original tasks 3, 4 / complete keys

Task 3

A photo box is 120 mm wide and 80 mm high. A circle is centered 40 mm from the left and 30 mm from the top. A rectangle is centered 80 mm from the left and 55 mm from the top. Draw the overlay, label shapes, and redraw. Use a hypothetical threshold of 6 mm.

Answer: Circle center: (40, 30). Rectangle center: (80, 55). Labels: C and R. Redraw at same coordinates. Check horizontal gap: traced 40 mm, redraw 40 mm; vertical gap: traced 25 mm, redraw 25 mm. Differences 0 mm, within 6 mm. Score 9.

Reason: The circle fits the round mass; the rectangle fits the straight-edged mass. Coordinates are in millimeters.

Check: Measure redrawn centers and compare gaps. Confirm differences are within 6 mm.

Task 4

A photo box is 70 mm wide and 50 mm high. An oval is centered 20 mm from the left and 15 mm from the top. A circle is centered 50 mm from the left and 35 mm from the top. Draw the overlay, label shapes, and redraw. Use a hypothetical threshold of 3 mm.

Answer: Oval center: (20, 15). Circle center: (50, 35). Labels: O and C. Redraw at same coordinates. Check horizontal gap: traced 30 mm, redraw 30 mm; vertical gap: traced 20 mm, redraw 20 mm. Differences 0 mm, within 3 mm. Score 9.

Reason: The oval matches the elongated mass; the circle matches the round mass. Measurements are in millimeters.

Check: Measure redrawn centers and compare gaps. Confirm differences are within 3 mm.

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Source rubric / reflection

- [ ] Placement: 3 if all shapes within threshold, 2 if one exceeds, 1 if two or more exceed.
- [ ] Labeling: 3 if all shapes labeled, 2 if one missing, 1 if two or more missing.
- [ ] Redraw: 3 if all check distances within threshold, 2 if one exceeds, 1 if two or more exceed.
- [ ] Units: all measurements recorded in millimeters.
- [ ] Alternatives: valid shape choices explained when used.

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