Libra Scale Tattoo Drawing: Balance Beam, Pans, and Symbol

Original tasks 1, 2 / complete keys

Task 1

On paper, draw a scale with support height 60 mm, beam width 100 mm, hang lines 20 mm, pan width 30 mm, and symbol height 15 mm. Check beam level and pan symmetry.

Answer: Support 60 mm tall; beam 100 mm wide centered on the support with its midpoint at the support top (60 mm above the base); hang lines 20 mm down from each beam endpoint; pans 30 mm wide centered under the hang lines; symbol 15 mm tall centered horizontally with its bottom edge 10 mm above the beam midpoint (so its center is 10 + 7.5 = 17.5 mm above the beam midpoint).

Reason: Use the convention 1 unit = 10 mm and keep all measurements in millimeters. Center the beam on the support and mirror the pans.

Check: Measure beam endpoint heights from the base; they should match within 2 mm. Measure pan widths; they should match within 2 mm. Measure symbol centering from the centerline; distances should be equal within 2 mm. Confirm the symbol bottom is 10 mm above the beam midpoint, so the symbol center is 17.5 mm above it (10 mm gap plus half of 15 mm).

Task 2

Draw a scale with beam width 140 mm and support height 70 mm. Place the symbol so its bottom edge is 10 mm above the beam midpoint. Check that the symbol does not touch the beam and that margins are roughly equal.

Answer: Beam 140 mm wide centered on the support with its midpoint at the support top (70 mm above the base); support 70 mm tall; symbol centered horizontally with its bottom edge 10 mm above the beam midpoint; bounding box roughly square with equal margins.

Reason: A wider beam requires a larger bounding box. Keep the symbol clear of the beam and center it.

Check: Measure the gap between symbol bottom and beam midpoint; it should be 10 mm, and the symbol must not touch the beam. Measure margins on all sides; they should be roughly equal. Check beam endpoint heights from the base; they should match within 2 mm.

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Original tasks 3, 4 / complete keys

Task 3

Draw a scale with pan width 50 mm and hang lines 25 mm. Shade the support's right side and the pans' lower inside. Check that shading does not obscure the outline.

Answer: Pans 50 mm wide centered under hang lines 25 mm below the beam endpoints; shading on the support's right edge and the lower inside of each pan; outline remains visible and the beam is left unshaded.

Reason: Shading should be subtle and consistent. Keep the beam unshaded for contrast.

Check: View from 1 m away; the outline should remain clear. Check that shading strokes are consistent in direction and density. Measure pan widths; they should match within 2 mm, and hang lines should be equal within 2 mm.

Task 4

Draw a scale with symbol height 25 mm and beam width 110 mm. Place the symbol so its bottom edge is 10 mm above the beam midpoint to avoid crowding. Check centering and gap.

Answer: Symbol 25 mm tall; beam 110 mm wide centered on the support; symbol centered horizontally with its bottom edge 10 mm above the beam midpoint (so its center is 10 + 12.5 = 22.5 mm above the beam midpoint); no overlap.

Reason: A larger symbol needs more clearance. Keep the beam level and pans symmetrical.

Check: Measure symbol centering from the centerline; distances should be equal within 2 mm. Measure the gap from symbol bottom to beam midpoint; it should be 10 mm. Check beam endpoint heights from the base within 2 mm, and confirm the symbol center is 22.5 mm above the beam midpoint (10 mm gap plus half of 25 mm).

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Source rubric / reflection

- [ ] Beam is level within 2 mm across its length.
- [ ] Pans are symmetrical in width and placement within 2 mm.
- [ ] Symbol is centered above the beam within 2 mm.
- [ ] Outline is clean and consistent in line weight.
- [ ] Shading is subtle and consistent, preserving readability.
- [ ] Composition has roughly equal margins and no overlaps.
- [ ] Valid alternatives are accepted if beam level, pan symmetry, and symbol centering are maintained.

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