Disc Golf Disc Drawing: Rim and Flight-Plate Construction

Original tasks 1, 2 / complete keys

Task 1

Draw a side-view rim guide with top edge 25 mm above its baseline, widest point 15 mm above the baseline and 6 mm outward, and bottom edge on the baseline. Separately draw top and bottom ellipses 70×45 mm and 64×39 mm, centers horizontally aligned, with the bottom center 7 mm lower.

Answer: The side profile spans 25 mm vertically, with its widest point 15 mm above the baseline and 6 mm outward. In the separate view, draw the 70×45 mm top ellipse and the centered 64×39 mm bottom ellipse 7 mm lower. Mirror the left and right rim contours; the band gap is not automatically 7 mm.

Reason: The side profile and projected ellipses have separate measurements. The stated center alignment gives left/right symmetry, but the 7 mm center offset is not a band-width formula.

Check: Check 25 mm vertical profile extent, 15 mm widest-point height, 7 mm ellipse-center offset, and equal left/right rim contours.

Task 2

Draw a flat-bottom side profile with top at 20 mm, widest point at 12 mm and 4 mm outward, and bottom at 5 mm. Separately draw ellipses 60×40 mm and 56×36 mm with centers aligned and a 6 mm downward offset.

Answer: The side profile extends from 20 mm to 5 mm, a 15 mm vertical span. The bottom ellipse is centered under the top ellipse, is 56×36 mm, and its center is 6 mm lower. Keep the left and right projected bands symmetric.

Reason: Subtracting the profile endpoints gives $20-5=15$ mm. That side-view span is not converted into the 6 mm projected ellipse offset.

Check: Verify the side profile span is 15 mm and the separate ellipse-center offset is 6 mm. Compare the left and right contours.

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Original tasks 3, 4 / complete keys

Task 3

Draw a domed flight plate using a top ellipse 75×48 mm and a bottom ellipse 71×44 mm, with the bottom center 8 mm below the top center on the same vertical axis. Add a subtle center-to-edge gradient.

Answer: Both ellipse centers share a vertical axis. The bottom ellipse is 8 mm lower and smaller by 4 mm on each full axis. Add a light center and slightly darker edge gradient without crossing the rim boundary.

Reason: The two ellipse dimensions and center offset are specified independently. A subtle gradient can suggest doming without changing the outline.

Check: Measure the axes and center offset; check left/right symmetry and that the gradient stays inside the flight plate.

Task 4

Draw a wide-rim three-quarter view with a top ellipse 90×55 mm and a bottom ellipse 84×49 mm, sharing a vertical centerline, with the bottom center 10 mm lower. State one symmetry check.

Answer: Draw the two centered ellipses and connect their front edges with a visibly wider but mirrored rim band. The side-view profile may be drawn separately as a shape reference.

Reason: The axes and offset define the projected ellipse placement, while the wider band is an explicit drawing choice. Keeping the centers aligned preserves left/right symmetry.

Check: Measure corresponding left and right gaps and confirm the centers align; do not equate the 10 mm offset with band width.

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Source rubric / reflection

- [ ] Rim profile is a smooth, continuous curve with a clear top edge, widest point, and bottom edge.
- [ ] Flight plate is drawn as an ellipse with a shorter minor axis than major axis.
- [ ] Projected ellipses have stated dimensions and a chosen center offset; no unsupported conversion from side-profile height to ellipse separation is claimed.
- [ ] Shading follows the rim curve and shows thickness without hiding construction lines.
- [ ] Left and right rim contours mirror around the page-vertical centerline within the chosen drawing tolerance.
- [ ] Valid alternatives are accepted: different rim profiles, ellipse sizes, and shading styles are allowed if the construction checks pass.

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