Draw Anime Eyes in Perspective: Foreshortened Iris and Lash Guide

Original tasks 1, 2, 3 / complete keys

Task 1

A head tilts 15 degrees. The iris diameter is 10 mm. Use a compression ratio of 0.8. The near lash is 8 mm. Calculate the iris short axis and the far lash length. Describe where to place the ellipse.

Answer: Iris short axis = 10 mm × 0.8 = 8 mm. Long axis = 10 mm. Far lash length = 8 mm × 0.8 = 6.4 mm. Place the ellipse centered on the gaze arrow, with the short axis perpendicular to the gaze direction, inside the eye opening.

Reason: Multiply the iris diameter by the compression ratio to get the short axis. Multiply the near lash length by the same ratio to get the far lash length. The ellipse center follows the gaze arrow.

Check: Measure the drawn ellipse short and long axes with a ruler. The ratio should be about 0.8. Measure the far lash and compare to 6.4 mm.

Task 2

A head turns strongly. The iris diameter is 14 mm. Choose a compression ratio of 0.5. The near lash is 12 mm. Calculate the iris short axis and far lash length. Explain how the upper eyelid curve changes on the far side.

Answer: Iris short axis = 14 mm × 0.5 = 7 mm. Long axis = 14 mm. Far lash length = 12 mm × 0.5 = 6 mm. The upper eyelid curve becomes flatter on the far side, and the far lash may overlap the eye shape.

Reason: A strong turn compresses the iris more, so the short axis is half the diameter. The far lash shortens by the same ratio. The eyelid curve flattens because the far side is farther away.

Check: Measure the ellipse ratio; it should be about 0.5. Check that the far lash is about half the near lash. Confirm the upper eyelid is flatter on the far side.

Task 3

A head tilts 25 degrees. The iris diameter is 9 mm. You want the iris short axis to be 6.3 mm. What compression ratio should you use? The near lash is 7 mm. What is the far lash length?

Answer: Compression ratio = 6.3 mm ÷ 9 mm = 0.7. Far lash length = 7 mm × 0.7 = 4.9 mm.

Reason: Divide the desired short axis by the iris diameter to find the ratio. Apply the same ratio to the near lash length.

Check: Measure the drawn iris short axis; it should be about 6.3 mm. Measure the far lash; it should be about 4.9 mm.

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Original tasks 4 / complete keys

Task 4

A head tilts 10 degrees. The iris diameter is 11 mm. Use a compression ratio of 0.9. The near lash is 9 mm. Calculate the iris short axis and far lash length. Then describe a trace-paper check to verify the foreshortening.

Answer: Iris short axis = 11 mm × 0.9 = 9.9 mm. Long axis = 11 mm. Far lash length = 9 mm × 0.9 = 8.1 mm. Trace-paper check: mark the eye axis, gaze arrow, and iris ellipse on trace paper. Rotate the overlay to front view. The iris should become closer to a circle, and the lashes should become more equal in length.

Reason: A slight tilt uses a high ratio, so the iris is only slightly compressed. The far lash is only slightly shorter. The trace-paper check simulates returning the head to front view.

Check: Measure the ellipse ratio; it should be about 0.9. Measure the far lash; it should be about 8.1 mm. Perform the trace-paper rotation and confirm the iris looks rounder and lashes more equal.

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Source rubric / reflection

- [ ] Eye axis matches the head tilt angle within about 5 degrees.
- [ ] Iris is drawn as an ellipse, not a circle, with a measured short-to-long axis ratio within 0.1 of the chosen compression ratio.
- [ ] Iris stays inside the eye opening.
- [ ] Far-side lash is shorter than the near-side lash by approximately the compression ratio.
- [ ] Upper eyelid curve is flatter on the far side.
- [ ] Gaze arrow and iris center are consistent.
- [ ] Measurements use consistent units and are labeled as hypothetical examples.

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