Contour Drawing of a Bishop: Mitre, Collar, and Base

Original tasks 1, 2 / complete keys

Task 1

A bishop reference has a collar width of 5 mm. Using the convention, calculate the expected mitre height and base width. Then list the first three edges to draw in order.

Answer: Mitre height = 3 x 5 mm = 15 mm. Base width = 4 x 5 mm = 20 mm. First three edges: top and bottom marks, finial oval, mitre arch.

Reason: The convention sets mitre height at three x-heights and base width at four x-heights, with collar width equal to one x-height. Edge order starts at the top and moves down.

Check: Verify arithmetic: 3 x 5 = 15 and 4 x 5 = 20. Check that the listed edges follow the top-to-bottom sequence.

Task 2

A learner draws a bishop with a collar width of 8 mm, a mitre height of 12 mm, and a base width of 20 mm. Using the convention, identify which proportion is most off and suggest one fix.

Answer: The mitre height is most off: expected 3 x 8 = 24 mm, but drawn 12 mm. Fix: raise the mitre point to about 24 mm above the collar.

Reason: Collar width sets the unit. Expected mitre height is three times the collar width. The drawn mitre is half the expected height, so it is the largest error.

Check: Compute 3 x 8 = 24 and compare to 12: the mitre is 12 mm shorter than expected, which is 12/24 = 50% short. Check base width: expected 4 x 8 = 32 mm, drawn 20 mm, also 12 mm short, which is 12/32 = 37.5% short. Both are 12 mm short in absolute terms, but the mitre is proportionally more off (50% vs 37.5%), so it is the largest proportional error.

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Original tasks 3, 4 / complete keys

Task 3

Describe how to draw the contour of a bishop whose finial is a small circle, mitre is a pointed arch, collar is a narrow band, and base is a trapezoid. Include the edge order and one symmetry check.

Answer: Mark top and bottom. Draw the finial circle centered on the vertical axis. Draw the mitre arch from the finial down to the collar. Draw the collar band. Draw the base trapezoid with a flat bottom. Connect the sides. Symmetry check: measure the horizontal distance from the vertical axis to the left and right edges at the collar; they should be equal within about 1 mm.

Reason: The edge order keeps the top-to-bottom sequence and prevents merging zones. The symmetry check uses a measurable distance on both sides.

Check: Confirm the order matches finial, mitre, collar, base, sides. Measure left and right collar distances with a ruler and compare.

Task 4

A learner's bishop contour has a base width of 24 mm and a mitre width of 18 mm. The collar width is 6 mm. Using the convention, state whether the base and mitre widths are acceptable, and give one reason.

Answer: Base width is acceptable: expected 4 x 6 = 24 mm. Mitre width is not directly set by the convention, but it should be narrower than the base; 18 mm is narrower than 24 mm, so it is acceptable. Reason: the base is wider than the mitre and the base matches the expected width.

Reason: The convention sets base width at four x-heights. The mitre width is not fixed, but the silhouette requires the base to be wider. Both conditions are met.

Check: Compute 4 x 6 = 24 and compare to the drawn base. Compare 18 mm and 24 mm to confirm the base is wider.

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Source rubric / reflection

- [ ] Edge order followed: finial, mitre, collar, base, then connecting sides.
- [ ] Collar width is close to one measured x-height (within about 1 mm for a 5 mm x-height).
- [ ] Mitre point is centered above the collar and clearly pointed.
- [ ] Base is wider than the mitre and has a flat bottom edge.
- [ ] Contour lines are clean and readable; no shading or filling.
- [ ] Bishop is centered in the frame and recognizable from a distance.
- [ ] Valid alternatives (rounded finial, slight curve in base) are accepted if proportions and edge order are correct.

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