Face Reference Drawing: Compare Features and Angles

Original tasks 1, 2, 3 / complete keys

Task 1

A reference front view has x-height 50 mm, eye span 36 mm, nose width 14 mm, and mouth width 22 mm. Your drawing has eye span 34 mm, nose width 13 mm, and mouth width 20 mm. Using the same unit, which feature has the largest difference in millimeters?

Answer: Eye span and mouth width are tied for the largest difference, at 2 mm each. Nose width differs by 1 mm. State the tie explicitly rather than picking one feature arbitrarily.

Reason: Subtract each drawing measurement from the reference: 36-34=2, 14-13=1, 22-20=2. The largest difference is 2 mm, shared by eye span and mouth width.

Check: Re-subtract in the same order and confirm the unit is millimeters for all three features.

Task 2

A reference three-quarter view has nose width 10 mm and a front view has nose width 16 mm. Compute the ratio of three-quarter to front and state whether the nose is foreshortened.

Answer: Ratio is 10/16 = 0.625. Because the ratio is less than 1, the nose is foreshortened in the three-quarter view.

Reason: Divide the three-quarter measurement by the front measurement. A ratio below 1 means the feature appears narrower in that view.

Check: Multiply 0.625 by 16 and confirm you get 10 mm.

Task 3

A reference jaw line reads 25 degrees from horizontal in view A and 40 degrees in view B. Your drawing reads 30 degrees in view A and 38 degrees in view B. Which view has the larger angle difference, and what is that difference?

Answer: View A has the larger difference: 30-25=5 degrees. View B difference is 38-40=-2 degrees, so the absolute difference is 2 degrees.

Reason: Subtract the reference angle from the drawing angle in each view, then compare absolute values. Five degrees is larger than two degrees.

Check: Re-measure both angles with the same protractor and confirm the subtraction order is drawing minus reference.

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Original tasks 4 / complete keys

Task 4

A reference has x-height 45 mm and eye span 32 mm. Your drawing uses a scale factor of 1.5. What eye span in millimeters should your drawing have to match the reference proportionally?

Answer: 48 mm. Multiply the reference eye span by the scale factor: 32 x 1.5 = 48 mm.

Reason: A scale factor of 1.5 means every reference measurement is multiplied by 1.5 on the drawing. Apply it to eye span only, since x-height is already scaled by the same factor.

Check: Divide 48 by 1.5 and confirm you get 32 mm, the original reference eye span.

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Source rubric / reflection

- [ ] Baseline and midline are marked and x-height is measured on the reference.
- [ ] Eye span, nose width, and mouth width are recorded in the same unit or with a stated scale factor.
- [ ] At least one feature angle is measured from horizontal and recorded.
- [ ] Cross-view ratios or angle differences are recorded when more than one view is present.
- [ ] The drawing's measurements are compared with the reference and the largest difference is identified.
- [ ] Valid alternatives in letter style and feature shape are accepted if the recorded comparisons match within tolerance.

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