Fashion Designer Drawing: Mannequin Proportion Plate

Original tasks 1, 2, 3 / complete keys

Task 1

Choose a total height of 200 mm and eight head units. Set shoulder width at 1.5 head units, waist at 0.8, and hip at 1.3. Calculate the head unit and all three widths.

Answer: Head unit = 25 mm; shoulder = 37.5 mm; waist = 20 mm; hip = 32.5 mm.

Reason: Divide 200 by 8 to get 25 mm per unit. Multiply each ratio by 25: 1.5 × 25 = 37.5, 0.8 × 25 = 20, 1.3 × 25 = 32.5.

Check: Verify each product by reversing the multiplication (37.5 ÷ 25 = 1.5; 20 ÷ 25 = 0.8; 32.5 ÷ 25 = 1.3), and confirm the order waist < hip < shoulder (20 < 32.5 < 37.5).

Task 2

A plate uses a 120 mm total height. The student marks the chin at 15 mm from the top and the hip at 60 mm from the top. Are these consistent with the eight-unit convention? Explain.

Answer: Yes. Head unit = 120 ÷ 8 = 15 mm. Chin at one unit = 15 mm. Hip at four units = 60 mm.

Reason: The convention places the chin at one unit and the hip at four units. Multiply the unit length by the unit number.

Check: Divide each marked distance by the head unit length and confirm the results are whole numbers 1 and 4.

Task 3

A student sets shoulder width at 40 mm and head unit at 20 mm, then writes the shoulder ratio as 1.5. Is the note correct? If not, what should it be?

Answer: No. The ratio should be 2.0 because 40 ÷ 20 = 2.

Reason: Ratio equals width divided by head unit length. 40 mm ÷ 20 mm = 2.0.

Check: Multiply the stated ratio by the head unit: 1.5 × 20 = 30 mm, which does not match 40 mm.

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Original tasks 4 / complete keys

Task 4

Design a scale note set for a 240 mm figure with eight units. Choose shoulder, waist, and hip ratios that keep waist narrower than hip and hip narrower than shoulder. Calculate all millimeter values.

Answer: Example: head unit = 30 mm; shoulder ratio 1.6 gives 48 mm; waist ratio 0.7 gives 21 mm; hip ratio 1.2 gives 36 mm. Order check: 21 < 36 < 48.

Reason: Divide 240 by 8 to get 30 mm. Multiply chosen ratios by 30. Any ratios satisfying the order condition are valid.

Check: Confirm each product equals ratio × 30 and that waist < hip < shoulder in millimeters.

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Source rubric / reflection

- [ ] Center line is vertical and clearly marked.
- [ ] Total height is divided into eight equal units with measured boundaries.
- [ ] Joint levels are marked at the defined unit boundaries.
- [ ] Shoulder, waist, and hip widths match the recorded ratios within 1 mm.
- [ ] Scale notes list total height, head unit, and three widths with consistent units.
- [ ] Numerical values are labeled as hypothetical examples.
- [ ] Outline is clean and symmetrical about the center line unless intentionally shifted.
- [ ] Valid alternative line styles and slight shape variations are accepted if scale notes check out.

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