Scale Figures in Architectural Drawings: A Practical Guide

Original tasks 1, 2, 3, 4 / complete keys

Task 1

At 1:50, a hypothetical 1.8 m person is drawn. What is the baseline-to-midline height in centimeters?

Answer: 3.6 cm

Reason: 1.8 m = 180 cm. At 1:50, divide by 50: 180/50 = 3.6 cm.

Check: Multiply 3.6 cm by 50 to get 180 cm, which equals 1.8 m.

Task 2

A door on a 1:50 elevation is 4.2 cm tall. A figure is 3.5 cm tall. What is the figure-to-door ratio, and is the figure shorter than the door?

Answer: Ratio = 0.833; yes, the figure is shorter.

Reason: 3.5/4.2 = 0.833. Since 3.5 cm is less than 4.2 cm, the figure is shorter.

Check: Multiply 4.2 by 0.833 to get approximately 3.5 cm.

Task 3

Two figures on the same flat elevation are drawn at 3.4 cm and 3.4 cm baseline-to-midline. A third figure is drawn at 3.0 cm. Which figure is inconsistent if all are meant to represent the same hypothetical height?

Answer: The 3.0 cm figure is inconsistent.

Reason: On a flat elevation at the same scale, equal hypothetical heights produce equal drawn heights. The 3.0 cm figure differs from the 3.4 cm figures.

Check: Compare the three heights: 3.4, 3.4, and 3.0. The odd one out is 3.0 cm.

Task 4

A window sill is 1.8 cm above the baseline on a 1:50 drawing. A figure's shoulder line is at 2.8 cm. If the figure's total height is 3.4 cm, does the shoulder line sit above the sill?

Answer: Yes, the shoulder line is above the sill.

Reason: 2.8 cm is greater than 1.8 cm, so the shoulder line is higher than the sill.

Check: Subtract 1.8 from 2.8 to get 1.0 cm difference; the positive result confirms the shoulder is above the sill.

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Source rubric / reflection

- [ ] Figure height is measured from baseline to head midline using the defined convention.
- [ ] Figure height matches the converted human height for the chosen scale.
- [ ] Figures are placed with feet on the same baseline as architectural elements.
- [ ] Proportion ratios between figure height and door or window height are calculated correctly with consistent units.
- [ ] Valid alternatives in figure style are accepted if the baseline-to-midline height is correct.

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