Draw a Classical Museum Facade: Portico, Columns, and Steps

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

Task 1

Draw a museum facade 16 cm wide with four columns. Use equal gaps between column centers and 2 cm margins at each end. State the gap width.

Answer: Three gaps share 16 − 2 − 2 = 12 cm, so each gap is 4 cm.

Reason: Subtract both margins from the total width, then divide by the number of gaps between four columns.

Check: Add the margins and gaps: 2 + 4 + 4 + 4 + 2 = 16 cm, matching the facade width.

Task 2

A facade has a portico roof 10 cm above the baseline and four step tiers each 1.2 cm high. What is the total step height, and how far below the baseline does the lowest step sit?

Answer: Total step height is 4 × 1.2 = 4.8 cm. The lowest step sits 4.8 cm below the baseline.

Reason: Multiply tier height by tier count, then measure downward from the baseline.

Check: Reverse the arithmetic: 4.8 ÷ 4 = 1.2 cm per tier.

Task 3

You want six columns across an 18 cm facade with 1.5 cm margins. What gap width keeps the columns evenly spaced?

Answer: Five gaps share 18 − 1.5 − 1.5 = 15 cm, so each gap is 3 cm.

Reason: Six columns create five gaps. Subtract both margins, then divide by five.

Check: Check total: 1.5 + 5 × 3 + 1.5 = 18 cm.

Task 4

A student draws a pediment 8 cm wide centered on a 20 cm facade. How far is each pediment edge from the nearest facade edge?

Answer: Each side has (20 − 8) ÷ 2 = 6 cm from the pediment edge to the facade edge.

Reason: Subtract the pediment width from the facade width, then halve the remainder for symmetry.

Check: Add back: 6 + 8 + 6 = 20 cm.

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Source rubric / reflection

- [ ] Baseline and midline are present and the facade is symmetric about the midline.
- [ ] Column centers are evenly spaced and all columns reach the same portico roof height.
- [ ] Pediment is centered on the midline and sits above the columns.
- [ ] Entrance is centered between the middle columns and reads clearly.
- [ ] Step tiers have equal heights and are centered, each wider than the one above.
- [ ] Construction lines are erased or faint, and final lines are clear.
- [ ] Valid alternatives are accepted: column count, step count, and exact proportions may vary if symmetry and equal spacing are maintained.

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