Draw the Philadelphia Skyline: Landmark Shapes and Layering

Original tasks 1, 2, 3 / complete keys

Task 1

Plan a three-layer skyline on a 24 cm by 18 cm frame. The tallest landmark has a width of 3 cm and a height-to-width ratio of 4:1. Calculate its height and state whether it fits with a 2 cm top margin and a 3 cm ground margin.

Answer: Height equals 4 times 3 cm, which is 12 cm. Total vertical use is 12 cm plus 2 cm top margin plus 3 cm ground margin, which equals 17 cm. The frame is 18 cm high, so the landmark fits with 1 cm to spare.

Reason: Multiply the width by the ratio to get height, then add the stated margins and compare with frame height.

Check: Recompute 4 times 3 equals 12, then 12 plus 2 plus 3 equals 17, and confirm 17 is less than 18.

Task 2

A drawing has a far band at light tone, a middle band at medium tone, and a near band at firm tone. The near band overlaps the middle band, but the middle band does not overlap the far band. Describe one change that would improve the layering and explain why.

Answer: Make the middle band overlap the far band slightly. This creates a clear front-to-back relationship between the middle and far layers, so the skyline reads as three distinct depths rather than two.

Reason: Overlap is the strongest depth cue; each adjacent pair of layers should show a clear overlap where possible.

Check: Look at the boundary between the middle and far bands and confirm that at least one middle shape covers part of a far shape.

Task 3

You are labeling three landmarks. Using the convention that x-height is baseline to midline, describe how to keep labels consistent when letter styles vary. Then state one check you would use.

Answer: Mark a baseline and a midline on the page before labeling, and keep the lowercase letters of each label between those two lines. Letter styles may vary in width and slant, but the x-height stays consistent. Check by placing a straight edge along the baseline and midline to confirm each label sits within the band.

Reason: The convention defines x-height by two horizontal references, so style differences do not change the measured height.

Check: Use a straight edge to compare the baseline and midline across all labels.

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Original tasks 4 / complete keys

Task 4

A skyline frame is 30 cm wide. The far band occupies 10 cm of width, the middle band occupies 12 cm, and the near band occupies 8 cm. These bands overlap, so the total drawn width is not simply the sum. Explain why the sum is not the drawn width and give a simple check for whether the skyline fills the frame.

Answer: The bands overlap, so shared widths are counted twice if you add them. The drawn width is the distance from the leftmost mark to the rightmost mark, not the sum of band widths. Check by measuring the leftmost and rightmost marks with the same ruler and confirming the distance is close to the frame width without exceeding it.

Reason: Overlap means some horizontal space belongs to more than one layer, so addition overcounts.

Check: Measure the actual leftmost and rightmost marks and compare that single distance with the 30 cm frame width.

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Source rubric / reflection

- [ ] Landmark shapes are simplified into clear envelopes with plausible height-to-width ratios.
- [ ] At least three layers are present and ordered from far to near.
- [ ] Overlap clearly shows which buildings are in front.
- [ ] Far buildings are lighter and less detailed than near buildings.
- [ ] Labels follow the stated x-height convention or an equally legible alternative.
- [ ] The skyline reads as Philadelphia through landmark shapes rather than generic buildings.

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