Photo-Reference Drawing: Grid and Value Study Practice

Original tasks 1, 2, 3 / complete keys

Task 1

A photo is 24 cm wide and 18 cm tall. You use a 6 by 3 grid. State each cell’s size and the cell containing a point 10 cm from the left and 7 cm from the top. Describe the point’s position inside that cell.

Answer: Each cell is 4 cm wide and 6 cm tall. The point is 10 cm from the left: 10 divided by 4 is 2.5 cells, so it is in column 3, halfway across. It is 7 cm from the top: 7 divided by 6 is 1.17 cells, so it is in row 2, about one-sixth down from the row’s top edge.

Reason: Divide width by columns and height by rows. Convert distances to cell counts by division. The whole-number part gives the column or row index; the remainder gives the position inside the cell.

Check: Multiply back: column 3 starts at 8 cm and ends at 12 cm, so 10 cm is halfway. Row 2 starts at 6 cm and ends at 12 cm, so 7 cm is 1 cm down, which is one-sixth of 6 cm.

Task 2

A value study uses five steps: 1 lightest, 5 darkest. Three shapes are assigned 2, 4, and 5. List them from lightest to darkest and state whether any adjacent pair differs by at least one step.

Answer: Lightest to darkest: 2, 4, 5. The pair 2 and 4 differs by two steps; the pair 4 and 5 differs by one step. Both adjacent pairs differ by at least one step.

Reason: Order the numbers from smallest to largest. Subtract adjacent numbers to find the step difference. A difference of one or more satisfies the check.

Check: Re-squint at the photo and confirm the shape assigned 2 is lighter than the shape assigned 4, and 4 is lighter than 5. If the order reverses, reassign numbers and repeat the subtraction.

Task 3

A photo cell is 3 cm wide and 4 cm tall. On paper you draw a cell 6 cm wide. What should the paper cell’s height be to keep the same ratio? Show the arithmetic.

Answer: The photo cell ratio is 3:4. The paper width is 6 cm, which is twice 3 cm. The paper height should be twice 4 cm, so 8 cm. The paper cell is 6 cm by 8 cm.

Reason: Keep the width-to-height ratio equal. Scale factor equals paper width divided by photo width. Apply the same factor to height.

Check: Divide paper width by paper height: 6 divided by 8 equals 0.75. Divide photo width by photo height: 3 divided by 4 equals 0.75. The ratios match.

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Original tasks 4 / complete keys

Task 4

You place three landmarks in cells A1, B2, and C3. After drawing, landmark A1 is correct, B2 is one cell too far right, and C3 is correct. State one correction and one check you would repeat.

Answer: Correction: move the B2 landmark one cell left from C2 back to B2, then re-check its cell-relative position. Repeat the check that counts cells from the left edge for all three landmarks and compares them with the photo.

Reason: Test one variable at a time. A cell error is a placement error, so correct position before tone. Repeating the cell-count check confirms the fix and catches drift in other landmarks.

Check: Write the expected column for each landmark, count columns on the drawing, and compare. For B2, the expected column is B; if the drawing shows C, the count differs by one and the correction is confirmed.

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Source rubric / reflection

- [ ] Grid cells on paper keep the same width-to-height ratio as the photo cells.
- [ ] At least three landmarks are placed in the correct cell and at a plausible cell-relative position.
- [ ] The value study uses a labeled five-step scale and assigns a number to each major shape.
- [ ] Value order of the three largest shapes matches the photo’s light-to-dark order.
- [ ] Checks are recorded with units and value numbers, and one correction is noted.
- [ ] Valid alternatives are accepted when the convention is stated, such as a different grid division or a different five-step scale, provided the checks remain consistent.

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