Drawing Subject Ideas with Thumbnail Sketch Boxes

Original tasks 1, 2, 3 / complete keys

Task 1

A hypothetical grid has 3 columns and 2 rows on a 200 mm by 260 mm sheet. Margins are 10 mm on all sides and gaps are 5 mm between boxes. Calculate the width and height of one box in millimetres.

Answer: Box width is 56.7 mm and box height is 117.5 mm, rounded to one decimal place.

Reason: Total horizontal space is 200 minus 20 for margins minus 10 for two gaps, giving 170 mm across three boxes, so each box is 170 divided by 3, which is 56.7 mm. Total vertical space is 260 minus 20 for margins minus 5 for one gap, giving 235 mm across two boxes, so each box is 235 divided by 2, which is 117.5 mm.

Check: Multiply box width by 3 and add margins and gaps: 56.7 times 3 is 170.1, plus 20 plus 10 is 200.1, which rounds to 200 mm. Multiply box height by 2 and add margins and gap: 117.5 times 2 is 235, plus 20 plus 5 is 260 mm.

Task 2

A thumbnail of a chipped mug scores 1 for silhouette clarity, 2 for proportion, 1 for value grouping, and 2 for box use. Calculate the total and state the decision using the rubric.

Answer: Total is 6, so the decision is keep.

Reason: Add the four scores: 1 plus 2 plus 1 plus 2 equals 6. The rubric states that a total of 6 to 8 means keep.

Check: Re-add the scores in a different order: 2 plus 2 plus 1 plus 1 equals 6. Confirm the decision rule: 6 falls in the keep range.

Task 3

You have a list with 4 categories and 6 subjects per category. You sketch one thumbnail for each subject, then drop 5 subjects and revise 7. How many subjects remain as keep, and what fraction of the original list is kept? Give the fraction in simplest form.

Answer: 12 subjects remain as keep, which is 1/2 of the original list.

Reason: The original list has 4 times 6 equals 24 subjects. Dropped and revised subjects total 5 plus 7 equals 12. Kept subjects are 24 minus 12 equals 12. The fraction kept is 12/24, which simplifies to 1/2.

Check: Add kept, revised, and dropped: 12 plus 7 plus 5 equals 24, matching the original count. Simplify 12/24 by dividing both numbers by 12 to get 1/2.

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Original tasks 4 / complete keys

Task 4

A thumbnail box is 50 mm wide and 40 mm tall. The subject's silhouette occupies a rectangle 30 mm wide and 20 mm tall, placed 5 mm from the left edge and 5 mm from the bottom edge. Calculate the unused area inside the box in square millimetres.

Answer: Unused area is 1400 square millimetres.

Reason: Box area is 50 times 40 equals 2000 square millimetres. Subject area is 30 times 20 equals 600 square millimetres. Unused area is 2000 minus 600 equals 1400 square millimetres.

Check: Check placement: 5 mm left margin plus 30 mm subject width is 35 mm, leaving 15 mm to the right edge. 5 mm bottom margin plus 20 mm subject height is 25 mm, leaving 15 mm to the top edge. The subject fits inside the box, so the area subtraction is valid.

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Source rubric / reflection

- [ ] Silhouette clarity: 0 means unrecognizable, 1 means partly readable, 2 means clearly readable when filled solid.
- [ ] Proportion: 0 means major parts are implausible, 1 means partly plausible, 2 means plausible at thumbnail size.
- [ ] Value grouping: 0 means no clear grouping, 1 means two or three groups are present but muddled, 2 means groups are simple and distinct.
- [ ] Box use: 0 means subject is cramped or lost, 1 means subject is awkwardly placed, 2 means subject fills the box comfortably.
- [ ] Decision rule: total 6 to 8 keep, 3 to 5 revise, 0 to 2 drop or simplify.

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