Floral Print Drawing: Motif Repeats and Pattern Layout

Original tasks 1, 2 / complete keys

Task 1

A panel is 16 cm wide and 12 cm high. You choose a 4 cm by 4 cm repeat unit. How many repeats fit across and down?

Answer: Across: 16 divided by 4 equals 4 repeats. Down: 12 divided by 4 equals 3 repeats.

Reason: Divide each panel dimension by the unit size. Both divisions give whole numbers, so the unit fits without a remainder.

Check: Multiply back: 4 repeats times 4 cm equals 16 cm across; 3 repeats times 4 cm equals 12 cm down. Both match the panel dimensions.

Task 2

A panel is 10 cm wide and 10 cm high. You want a half-drop repeat with a 5 cm by 5 cm unit. Describe where the motif centres sit in column A and column B.

Answer: With a 5 cm unit on a 10 cm panel, column A centres sit at 2.5 cm and 7.5 cm from the top edge. Column B centres shifted down by half the unit height (2.5 cm) would sit at 5 cm and 10 cm from the top edge. The 10 cm centre lies exactly on the panel edge, so a 5 cm unit does not keep every centre strictly inside the panel. To keep all centres strictly inside, use a smaller unit, for example 4 cm: column A centres at 2 cm and 6 cm, column B centres at 4 cm and 8 cm.

Reason: A 5 cm unit has its centre at 2.5 cm from the square edge. A half-drop shift moves every second column by half the unit height, which is 2.5 cm. On a two-row panel that shift pushes one centre onto the edge, so choose a unit that leaves room for the half-unit shift. With a 4 cm unit, half the unit height is 2 cm, and the shifted centres at 4 cm and 8 cm stay inside the 10 cm panel.

Check: Check that the shift equals half of the chosen unit height. For the 4 cm unit, half is 2 cm. Confirm that column A centres at 2 cm and 6 cm and column B centres at 4 cm and 8 cm all fall strictly inside the 10 cm by 10 cm panel, and that each column B centre is exactly 2 cm lower than the matching column A centre.

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Original tasks 3, 4 / complete keys

Task 3

A panel is 9 cm wide. You choose a 4 cm repeat unit. How many full repeats fit across, and what margin remains?

Answer: Two full repeats fit across, using 8 cm. The remaining margin is 1 cm, which can be split as 0.5 cm on each side.

Reason: Divide 9 by 4: two full units use 8 cm, and 1 cm remains. A planned equal margin keeps the layout balanced.

Check: Add the parts: 0.5 cm margin plus 8 cm of repeats plus 0.5 cm margin equals 9 cm.

Task 4

You have drawn a straight repeat on a 12 cm by 8 cm panel with a 4 cm unit. You now want a half-drop repeat. Describe the change to column B and state one check to confirm the new layout is consistent.

Answer: Shift every motif in column B down by 2 cm, which is half of the 4 cm unit height. Keep column A and column C unchanged. Check that every column B motif is exactly 2 cm lower than the matching column A motif, and that no motif crosses the panel edge.

Reason: A half-drop repeat shifts alternate columns by half the unit height. With a 4 cm unit, half is 2 cm. The shift must be applied to every square in column B, not just some.

Check: Measure the vertical distance between a column A motif centre and the nearest column B motif centre. It should be 2 cm. Repeat for two more pairs to confirm consistency.

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Source rubric / reflection

- [ ] The motif stays inside its repeat unit with no unintended overlap.
- [ ] The grid divides the panel evenly or has a planned equal margin.
- [ ] Every motif follows the same repeat rule, either straight or half-drop.
- [ ] Anchor points are marked consistently in each square.
- [ ] Spacing reads evenly at arm's length, with any variation planned and recorded.
- [ ] The layout key correctly shows the repeat unit and shift direction.
- [ ] Valid alternatives are accepted: different motif styles, different unit sizes, and either straight or half-drop repeats, provided the rule is consistent and checkable.

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