Strawberry Cake Drawing: Tier, Cream Layers, and Berry Topping

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

Task 1

A plate ellipse is 15 cm wide. The cake base is two-thirds of the plate width. The cake height is half the base width. Find the base width and height.

Answer: Base width = 10 cm; height = 5 cm.

Reason: Two-thirds of 15 cm is 10 cm. Half of 10 cm is 5 cm.

Check: Multiply the base width by 1.5 to recover the plate width: 10 × 1.5 = 15 cm.

Task 2

A cake side is 6 cm high and divided into three equal cream bands. How tall is each band?

Answer: Each band is 2 cm tall.

Reason: 6 cm divided by 3 equals 2 cm per band.

Check: Add the three bands: 2 + 2 + 2 = 6 cm.

Task 3

A top ellipse is 8 cm wide and 4 cm tall. You place three berries whose bases are 1.5 cm wide each. The two end margins are each 0.5 cm, and the two gaps between adjacent berries are equal. What is each between-berry gap along the width?

Answer: Each between-berry gap is 1.25 cm.

Reason: Total berry width = 3 × 1.5 = 4.5 cm. Total end margins = 2 × 0.5 = 1 cm. Remaining width for the two equal between-berry gaps = 8 − 4.5 − 1 = 2.5 cm. Each gap = 2.5 ÷ 2 = 1.25 cm.

Check: Add all parts along the width: 0.5 + 1.5 + 1.25 + 1.5 + 1.25 + 1.5 + 0.5 = 8 cm. If you prefer zero end margins, state that convention first; then each gap would be 1.75 cm.

Task 4

A plate is 14 cm wide. The cake base is two-thirds of the plate width. You draw two cream bands of equal height on a cake that is 4 cm high. Find the base width and each band height.

Answer: Base width ≈ 9.33 cm (about 9.3 cm); each band = 2 cm.

Reason: Two-thirds of 14 cm is approximately 9.33 cm. Two equal bands over 4 cm give 2 cm each.

Check: Check base: 9.33 × 1.5 ≈ 14 cm. Check bands: 2 + 2 = 4 cm.

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Source rubric / reflection

- [ ] Plate and cake base are distinct, with a visible rim.
- [ ] Cake body is a consistent cylinder with aligned sides.
- [ ] Two or three cream bands curve with the cake side.
- [ ] Three to five berries sit inside the top ellipse with leaf crowns.
- [ ] Cream swirls are small and do not hide the cake shape.
- [ ] Shading supports the form without erasing cream bands.
- [ ] Valid alternative berry styles and line styles are accepted if the construction checks pass.

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