Tennis Court Plan Drawing: Labeled Zones and Scale

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

Task 1

At a hypothetical scale of 1 cm = 3 m, a court is 24 m long and 12 m wide. What are the paper dimensions of the outer rectangle?

Answer: 8 cm long and 4 cm wide.

Reason: Divide each court dimension by 3 m per cm: 24 ÷ 3 = 8 cm; 12 ÷ 3 = 4 cm.

Check: Multiply back: 8 cm × 3 m/cm = 24 m; 4 cm × 3 m/cm = 12 m.

Task 2

A plan uses 1 cm = 2 m. The net is drawn 6 cm from each baseline. What total court length does this represent?

Answer: 24 m.

Reason: The net is at the midpoint, so each half is 6 cm. Total paper length is 12 cm. At 1 cm = 2 m, 12 cm represents 24 m.

Check: Convert each half: 6 cm × 2 m/cm = 12 m; two halves give 24 m.

Task 3

A court plan is 5.5 cm wide at 1 cm = 2 m. Where should the center service line be placed from each sideline?

Answer: 2.75 cm from each sideline.

Reason: The center line is at half the width: 5.5 ÷ 2 = 2.75 cm.

Check: Measure both sides; each should be 2.75 cm, and 2.75 + 2.75 = 5.5 cm.

Task 4

A service line is drawn 3 cm from the net at 1 cm = 2 m. A second service line is drawn 4 cm from the net on the other side. Are the two service boxes the same depth in court units? Explain.

Answer: No. The first is 6 m deep; the second is 8 m deep.

Reason: Convert each: 3 cm × 2 m/cm = 6 m; 4 cm × 2 m/cm = 8 m. Equal depths require equal paper distances.

Check: Compare the paper distances first; if they differ, the court depths differ at the same scale.

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Source rubric / reflection

- [ ] Outer boundary is a rectangle with correct proportions according to the stated scale.
- [ ] Net line is at the midpoint of the length and labeled.
- [ ] Service lines are parallel to the net and placed at the stated distance on both halves.
- [ ] Center service line is centered and divides the service zone into four labeled service boxes.
- [ ] Baselines, net, service lines, and sidelines are labeled readably; left/right convention is stated.
- [ ] Scale is written on the drawing and arithmetic checks are shown or noted.
- [ ] Valid alternatives: different scale, different hypothetical dimensions, printed or cursive labels, and labels placed outside the court with leader lines are acceptable if readable and correct.

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