Realistic Heart Drawing: Chambers and Vessel Labeling

Original task 1 / complete key

Task 1

On a 10 cm by 12 cm drawing zone, sketch a front-view heart outline and place a curved guide between the upper atrial zones and lower ventricular zones. Record a 3 mm label height. Which direction should the apex point in this view?

Answer: The outline is a rounded upper mass tapering down toward anatomical left, which appears on the viewer’s right. The atrial/ventricular guide is a simplified curve, not a literal horizontal chamber wall. Record 3 mm as the chosen label height.

Reason: The anatomical left/right convention is specified for a front view, and the apex points toward the patient’s anatomical left. The curved guide is only a visual aid.

Check: Check that the apex angles down toward the viewer’s right and that the guide is labeled as schematic. Measure a sample label to confirm the chosen 3 mm height.

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Original task 2 / complete key

Task 2

Divide a simplified front-view outline into four chamber zones. Place anatomical right on the viewer’s left and anatomical left on the viewer’s right; make the left-ventricle zone visibly larger without assigning a fixed ratio.

Answer: Put the right atrium and right ventricle on the viewer’s left; put the left atrium and left ventricle on the viewer’s right. Use a wider lower viewer-right zone for the left ventricle, but treat the proportions as a drawing convention.

Reason: Front-view left/right reverses from the viewer’s perspective. The left ventricle’s thicker wall and contribution to the apex justify a larger visual zone in this simplified exercise, not a precise area ratio.

Check: Read each chamber label with the front-view orientation. Confirm the viewer-right lower zone is larger than the viewer-left lower zone and the two are divided by a sloping guide.

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Original task 3 / complete key

Task 3

Add four vessel groups to the front-view schematic: aorta, pulmonary trunk, superior vena cava, and pulmonary veins. State where each connects and how to show the posterior pulmonary-vein entry.

Answer: The aorta and pulmonary trunk leave the upper heart. The superior vena cava enters the right atrium from above on the viewer’s left. Paired pulmonary veins return to the left atrium; draw them as dashed stubs disappearing behind the viewer-right upper chamber. Put labels outside the outline with non-crossing leaders.

Reason: NHLBI describes blood returning through pulmonary veins to the left atrium and the venae cavae entering the right atrium. The dashed treatment signals that the pulmonary-vein entry is posterior in this simplified front view.

Check: Trace each leader to its vessel. Confirm the vena cava points to the viewer-left right atrium, pulmonary veins to the viewer-right left atrium, and the posterior stubs are dashed.

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Original task 4 / complete key

Task 4

Six selected labels from the four chamber names and four vessel-group labels are measured at 3, 3, 4, 3, 2, and 3 mm. The chosen label height is 3 mm with a stated tolerance of 1 mm. Do they pass?

Answer: Yes. Every value is within 1 mm of 3 mm; the 2 mm and 4 mm labels lie exactly at the allowed boundary.

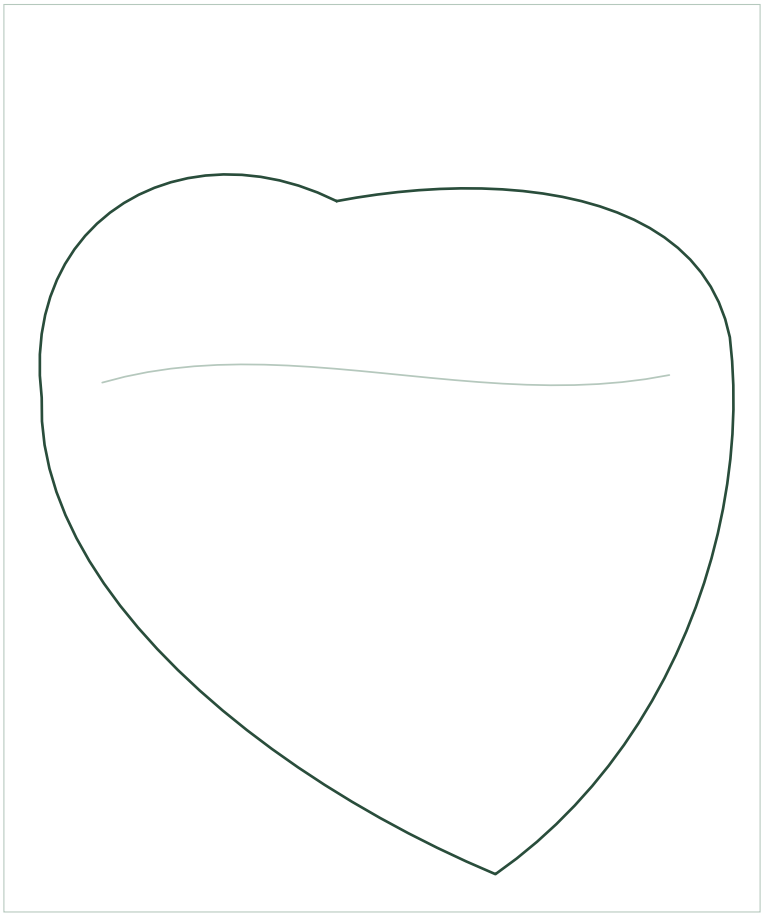
Reason: The absolute differences from the chosen height are 0, 0, 1, 0, 1, and 0 mm, so none exceeds the stated tolerance.

Check: Calculate each absolute difference and confirm it is at most 1 mm. Also check that labels remain legible and do not overlap chamber guides.

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Task 1 / answers

Educational front-view chamber SCHEMATIC / anatomical left is viewer right / not an anatomical atlas



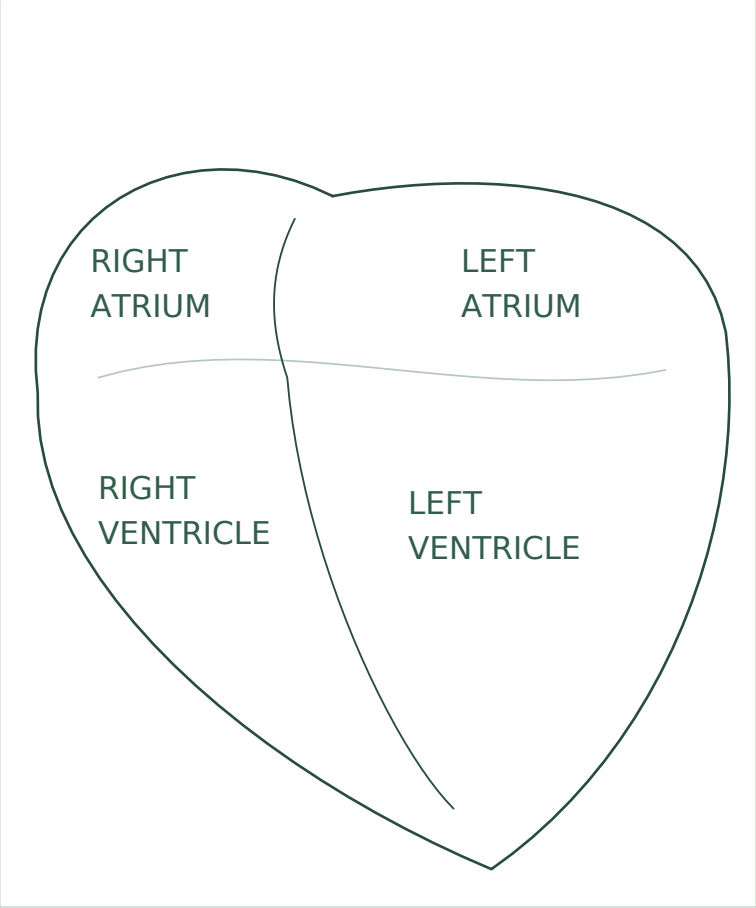
100 x 120 mm drawing zone / print 1:1

Four chamber zones and internal guides are deliberately simplified. The aorta exits the left ventricle; pulmonary trunk exits the right ventricle; SVC returns to right atrium; pulmonary veins return to left atrium (NHLBI/NIH). Only emerging vessel segments are drawn; dashed posterior entry cues do not claim a full vessel map. Capital labels use a chosen 3 mm cap-height reference. This is drawing practice, not diagnosis.

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Task 2 / answers

Educational front-view chamber SCHEMATIC / anatomical left is viewer right / not an anatomical atlas



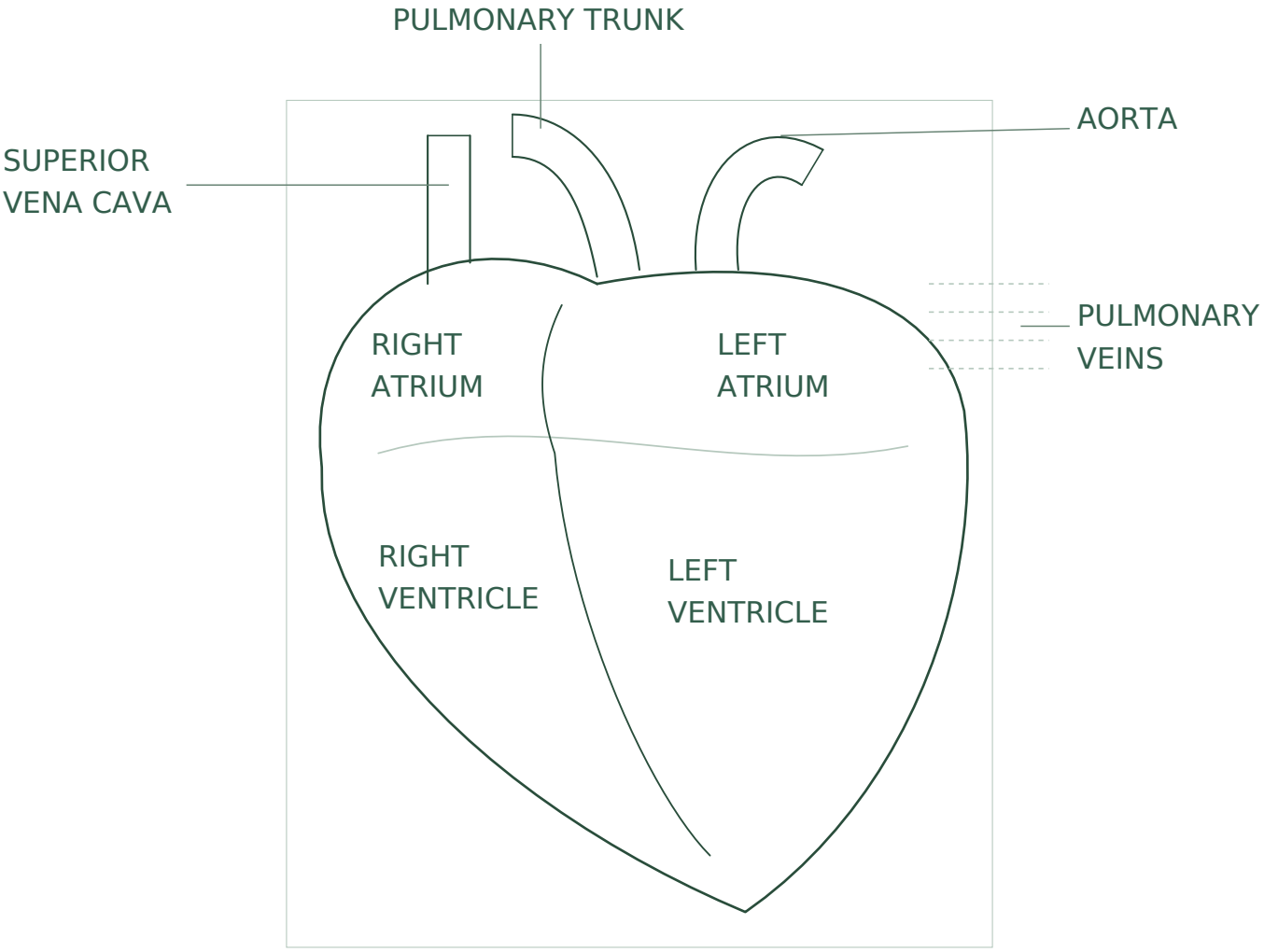
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Task 3 / answers

Educational front-view chamber SCHEMATIC / anatomical left is viewer right / not an anatomical atlas



100 x 120 mm drawing zone / print 1:1

Four chamber zones and internal guides are deliberately simplified. The aorta exits the left ventricle; pulmonary trunk exits the right ventricle; SVC returns to right atrium; pulmonary veins return to left atrium (NHLBI/NIH). Only emerging vessel segments are drawn; dashed posterior entry cues do not claim a full vessel map. Capital labels use a chosen 3 mm cap-height reference. This is drawing practice, not diagnosis.

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Task 4 / answers

Educational front-view chamber SCHEMATIC / anatomical left is viewer right / not an anatomical atlas

H	Label 1: 3 mm; |3-3| = 0 mm <= 1 mm / PASS
H	Label 2: 3 mm; |3-3| = 0 mm <= 1 mm / PASS
H	Label 3: 4 mm; |4-3| = 1 mm <= 1 mm / PASS
H	Label 4: 3 mm; |3-3| = 0 mm <= 1 mm / PASS
H	Label 5: 2 mm; |2-3| = 1 mm <= 1 mm / PASS
H	Label 6: 3 mm; |3-3| = 0 mm <= 1 mm / PASS

All six fit the inclusive interval [2, 4] mm. The two boundary values pass. H is an actual font-cap-height ruler example; chosen tolerance is only this classroom task, not a printing or medical standard.

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Source rubric / reflection

- [ ] Outer outline is a simplified front-view heart with a rounded upper mass and apex directed toward anatomical left (viewer’s right).
- [ ] Four chamber zones are present and labeled with anatomical names (left atrium, right atrium, left ventricle, right ventricle), placed according to the stated convention: anatomical left appears on the viewer's right and anatomical right appears on the viewer's left.
- [ ] Chamber boundary lines are solid internal lines with a visible gap from the outer outline.
- [ ] Four vessel stubs are present and labeled: aorta, pulmonary trunk, superior vena cava, pulmonary veins.
- [ ] Vessel labels are outside the outline with straight, non-crossing leader lines.
- [ ] Label height is consistent with the recorded drawing choice within the stated tolerance.
- [ ] All labels are legible; valid label styles are accepted.

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