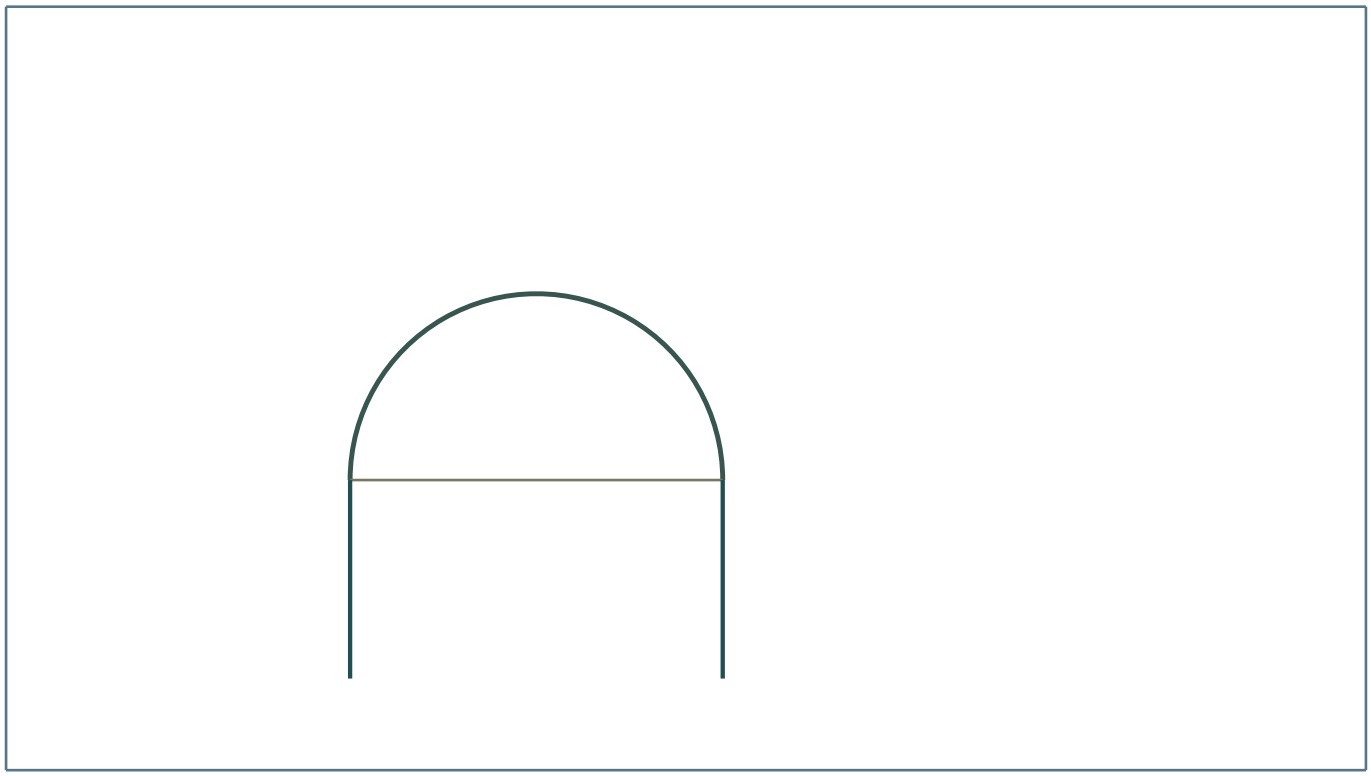
Draw Arches in Perspective

Answer | Task 1 of 4 | LETTER

Original prompt

Task 1: Draw the front face of a round arch — a true semicircular span on a horizontal springing line with two vertical supports. Do not add depth.



Answer

A horizontal springing line with two springing points, a semicircle above it, and two vertical supports below the springing points.

Reasoning

The front face is the reference curve; drawing it first as a true semicircle gives the points you will later project into depth.

Check

The span should look like a half-circle, the springing line horizontal, and the supports vertical.

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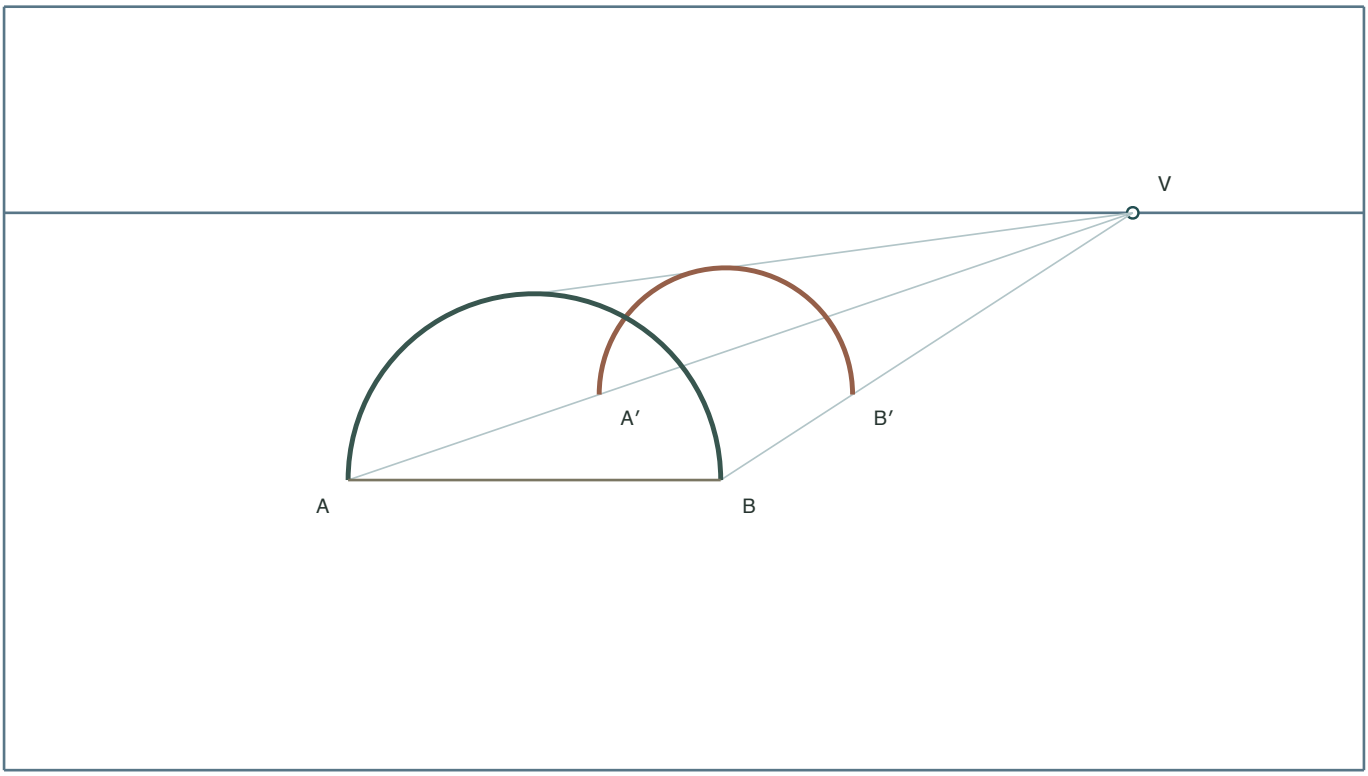
Task 2: Starting from a front semicircle, choose a vanishing point and a depth, then project the two springing points and the crown to build the back edge of the arch.



Answer

Project the two springing points and the crown toward V. Stop at the same fraction of each ray's length measured from its front point toward V. The new points lie on one smaller semicircle for the back face.

Reasoning

Projecting matching points to one vanishing point keeps the back curve consistent with the front curve.

Check

All projection lines should meet at the same vanishing point, and the back crown should sit farther back than the front crown.

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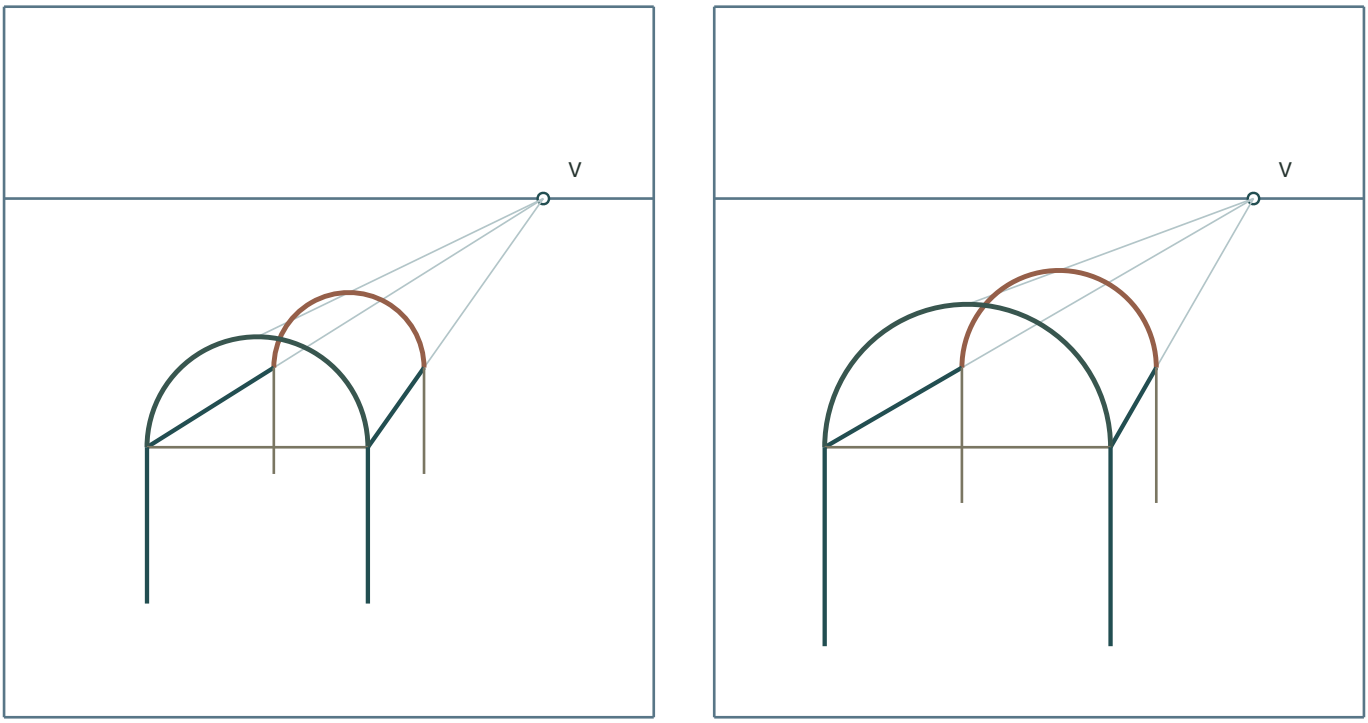
Task 3: Complete the arch's thickness by connecting front and back edges, and add the vertical supports. Then redraw the whole arch slightly larger, keeping the same construction order.



Left: first construction. Right: the same steps redrawn larger.

Answer

Side connectors joining front springing points to back springing points, a smooth back curve, and vertical supports; the redrawn version repeats the same order: front semicircle, projection, back curve, connectors, supports.

Reasoning

Connectors show the arch's depth, and repeating the construction order builds reliable habits.

Check

The arch should read as a solid curved span with visible thickness, and the redrawn version should match the same steps.

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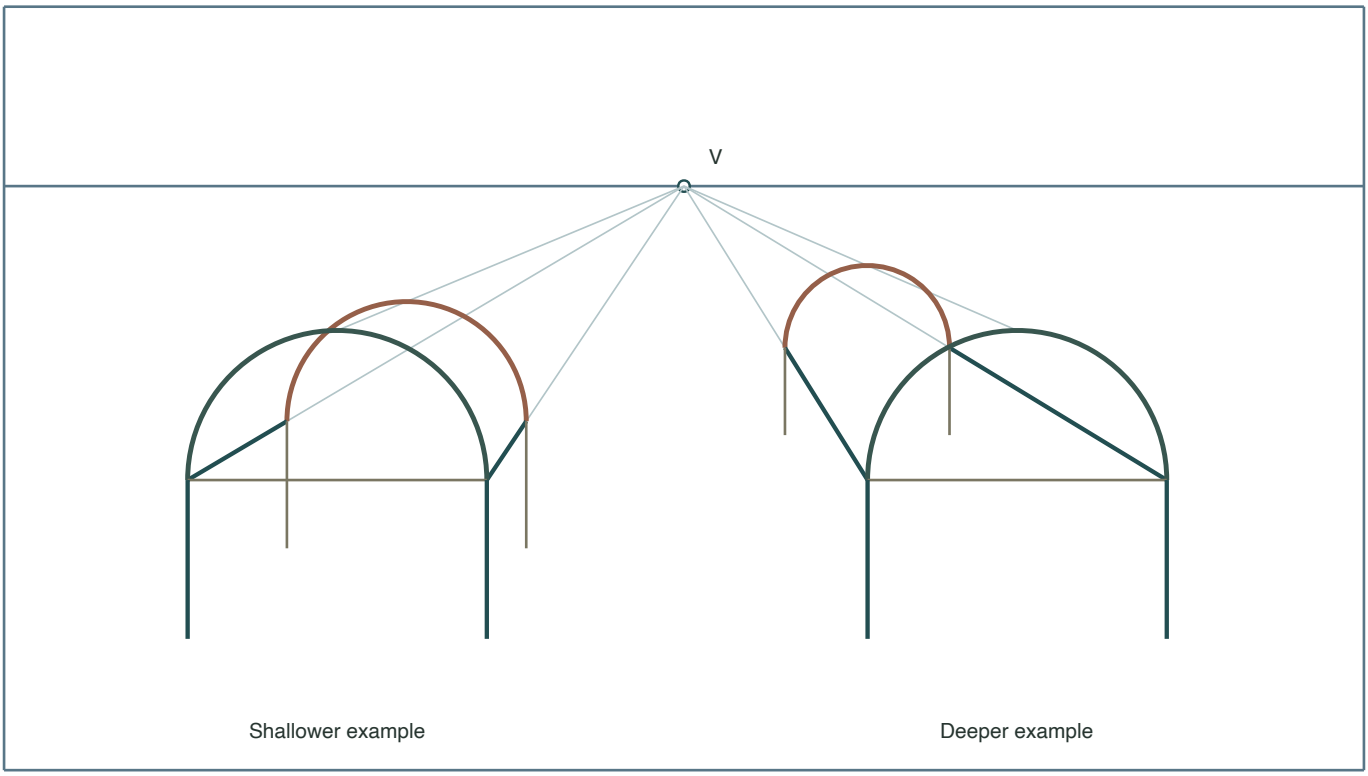
Task 4: Draw a second arch beside the first, sharing the same vanishing point and horizon but with a different chosen depth. Compare the two back curves.



Answer

Both front spans in the model have the same radius. Both use the single V on the horizon. The right example projects farther toward V, so its back span is visibly smaller than the back span in the left example. The left example is shallower.

Reasoning

Changing only the depth shows how the same construction adapts while the vanishing point stays fixed.

Check

Both arches' projection lines should meet at the same vanishing point, and the difference in depth should be visible in the spacing between front and back curves.