Drawing Isometric Cliffs with Layered Faces

Ordinary topic reference / separately checked pixels



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Original worked example / unchanged complete key

Prompt: On an isometric grid with unit spacing 1, draw a cliff with a base rhombus 3 units wide along depth-left and 2 units along depth-right. Add three bands: band 1 height 1 unit with no offset, band 2 height 2 units offset 1 unit forward along depth-left, band 3 height 1 unit offset 1 unit backward along depth-right. Confirm total height and describe the visible vertical faces.

Answer: Total height is 1 + 2 + 1 = 4 units. The base rhombus has corners at grid points (0,0), (3,0), (3,2), and (0,2) in depth-left and depth-right coordinates. Band 1 rises 1 unit from the base perimeter with no offset, so its top matches the base footprint; it exposes the front edge at 1 unit and both depth faces at 1 unit. Band 2 rises 2 units and shifts 1 unit forward along depth-left, exposing a 2-unit-high vertical face on the depth-left side and a 2-unit front edge. Band 3 rises 1 unit and shifts 1 unit backward along depth-right, exposing a 1-unit front edge and a 1-unit depth-left face while its depth-right face is hidden by the backward offset. The front edge total is the sum of band heights, 1 + 2 + 1 = 4 units. Check: sum of band heights equals 4; each offset is a whole unit; all receding edges follow the 30-degree guides.