Orthographic Drawing of Stairs

Student | Task 1 of 4 | LETTER

Original prompt

Task 1: Draw the plan of the straight four-tread stair, showing each tread as a rectangle and the travel arrow.

Given

Classroom model: four treads are each 80 units across and 30 along the run. Each rise is 20 units. Include the final rise to the landing.

Your drawing and check

Orthographic Drawing of Stairs

Student | Task 2 of 4 | LETTER

Original prompt

Task 2: Draw the elevation of the straight four-tread stair, showing risers and treads as a stepped profile.

Given

Classroom model: four treads are each 80 units across and 30 along the run. Each rise is 20 units. Include the final rise to the landing.

Your drawing and check

Orthographic Drawing of Stairs

Student | Task 3 of 4 | LETTER

Original prompt

Task 3: Draw the plan of a stair with a winder turn, fanning the winder treads around the corner.

Given

At corner O use x right and y up. Approach north from y = -90 to 0 across x = 20 to 100. Leave west from x = 0 to -90 across y = 20 to 100. Each tangent run has three 30-unit treads. Fill the turn with three equal sectors between radii 20 and 100. The walking line is at radius 60. Each rise is 20 units.

Your drawing and check

Orthographic Drawing of Stairs

Student | Task 4 of 4 | LETTER

Original prompt

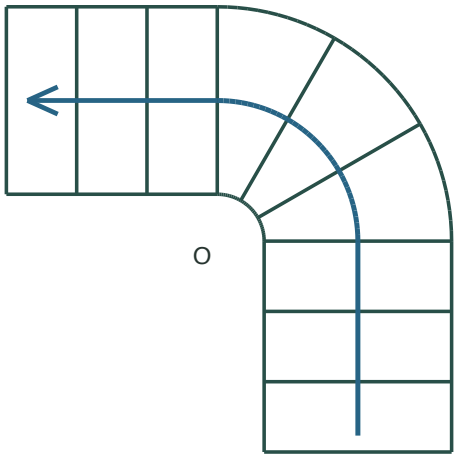
Task 4: Draw the elevation matching the winder stair plan, then check the plan and elevation agree.

Given

At corner O use x right and y up. Approach north from y = -90 to 0 across x = 20 to 100. Leave west from x = 0 to -90 across y = 20 to 100. Each tangent run has three 30-unit treads. Fill the turn with three equal sectors between radii 20 and 100. The walking line is at radius 60. Each rise is 20 units.

Unfold the plan along the blue walking line to show one continuous profile.

Given plan



Quarter turn: 3 straight + 3 winder + 3 straight

Blue travel line: r = 60 through the turn

Your drawing and check