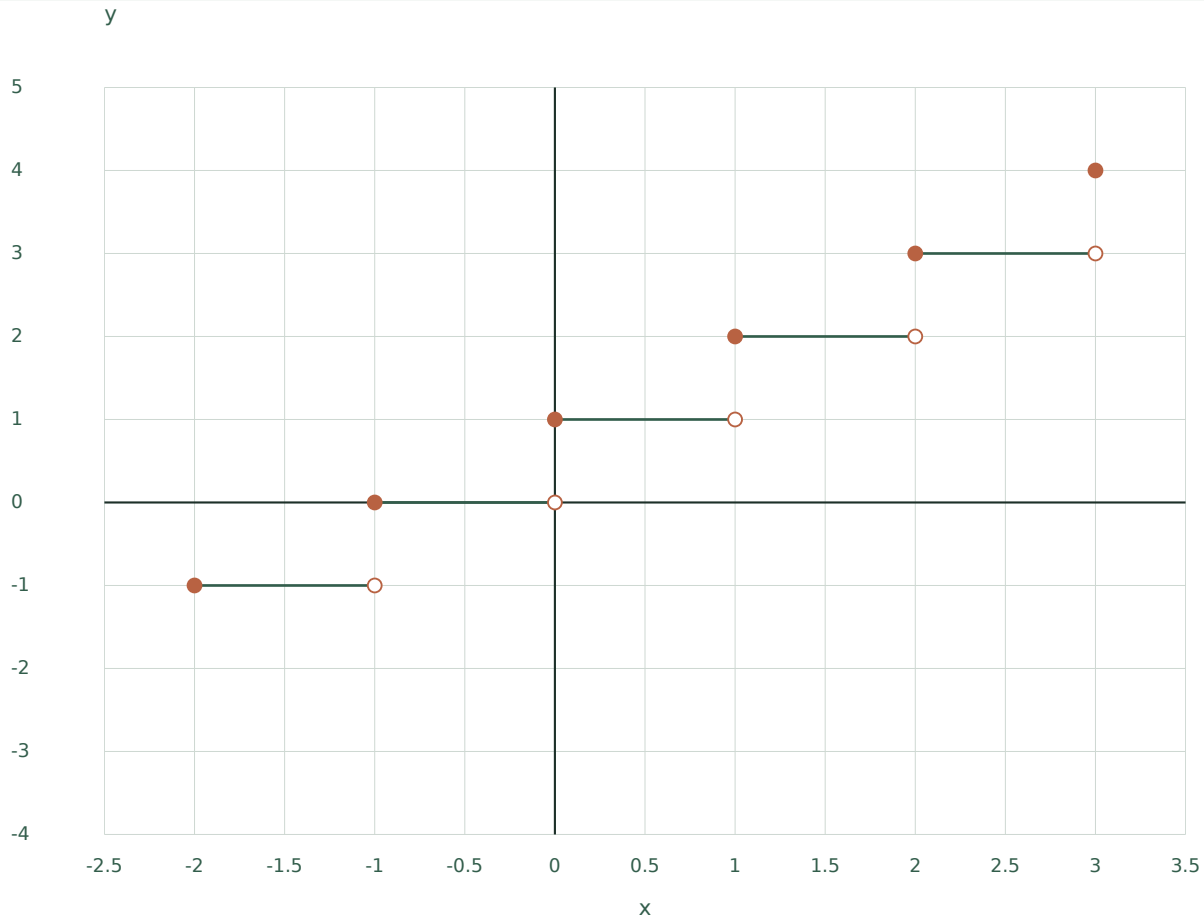
Practice Drawing Floor and Ceiling Functions: Step Graphs with Open and Closed Endpoints

Worked graph



Filled dots are included; white circles are excluded. The isolated boundary dot is the actual function value at the finite window endpoint.

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Original worked example / unchanged complete key

Prompt: Graph y = floor(x) + 1 for x from -2 to 3. Mark open and closed endpoints and state the convention used.

Answer: Using filled dots for included endpoints and open circles for excluded endpoints: on [-2, -1) the segment is at y = -1, filled at x = -2 and open at x = -1; on [-1, 0) the segment is at y = 0, filled at x = -1 and open at x = 0; on [0, 1) the segment is at y = 1, filled at x = 0 and open at x = 1; on [1, 2) the segment is at y = 2, filled at x = 1 and open at x = 2; on [2, 3) the segment is at y = 3, filled at x = 2 and open at x = 3. At x = 3 the value is floor(3) + 1 = 4, so a filled dot at (3, 4) begins the next step if the window extends there.