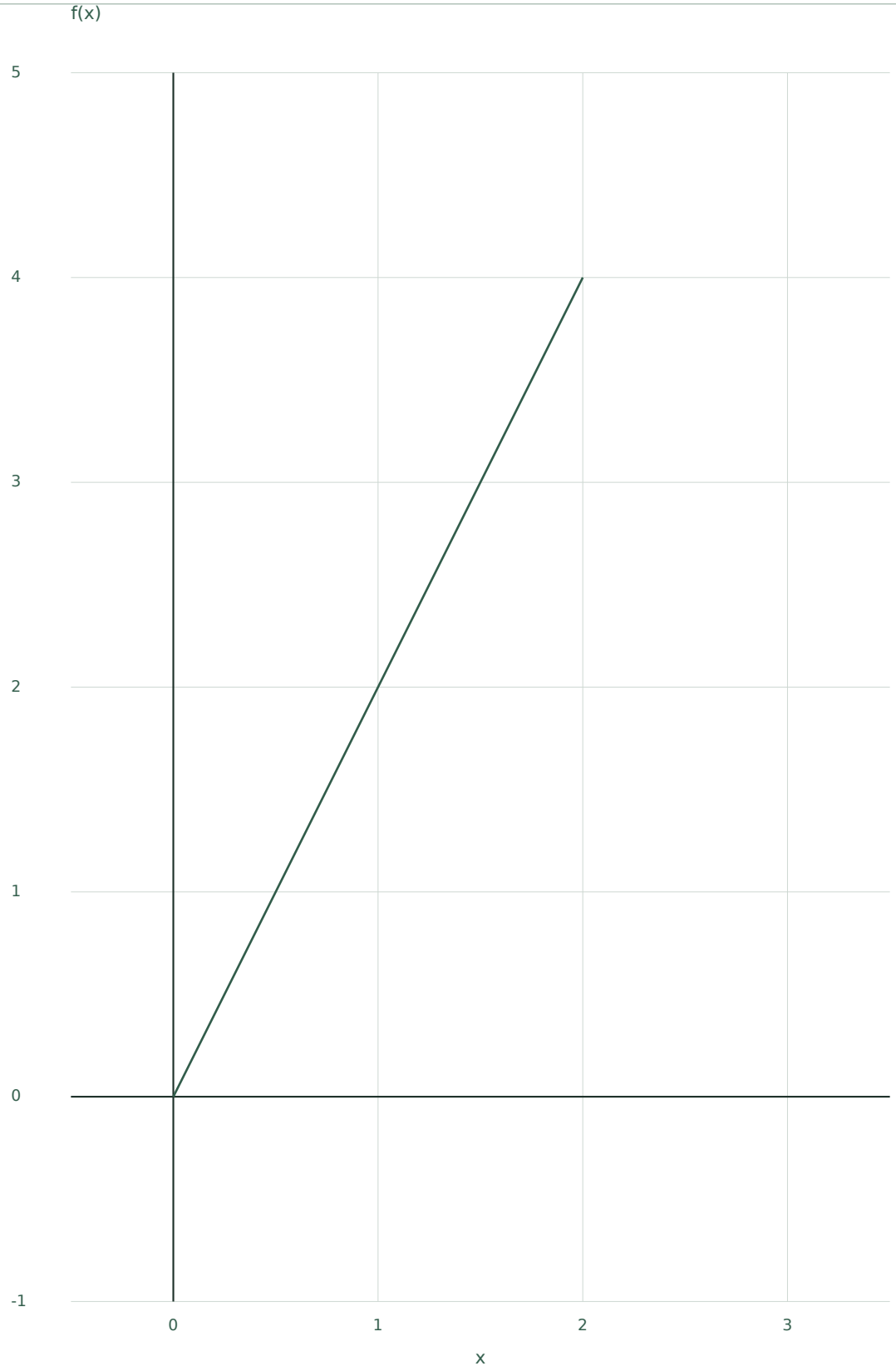
Sketching Derivative Graphs from Function Curves: A Visual Guide

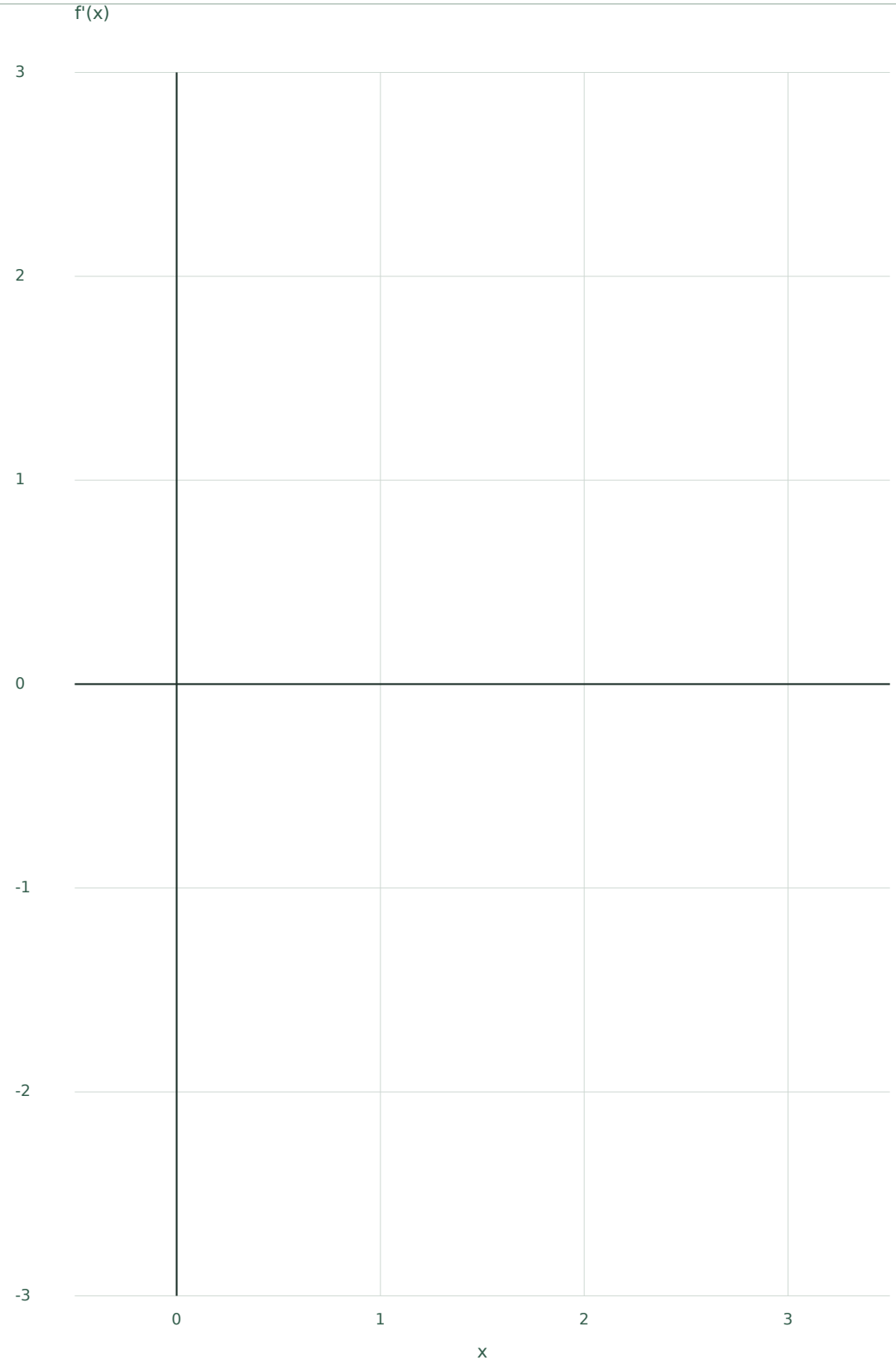
Exercise 1: Straight Line Function



One square = one unit horizontally and vertically.

Sketching Derivative Graphs from Function Curves: A Visual Guide

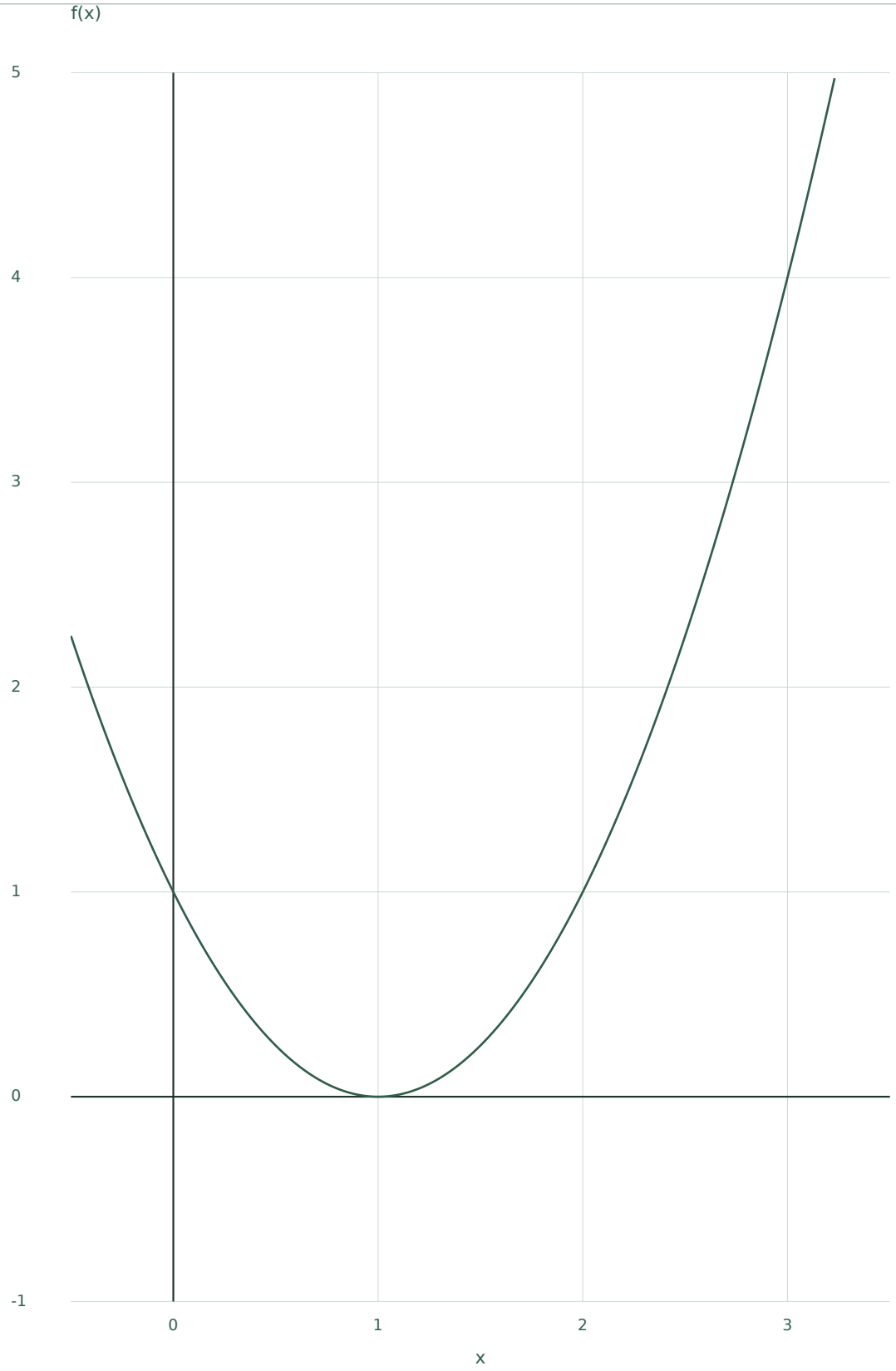
Exercise 1: Derivative Grid



One square = one unit of slope (hypothetical example).

Sketching Derivative Graphs from Function Curves: A Visual Guide

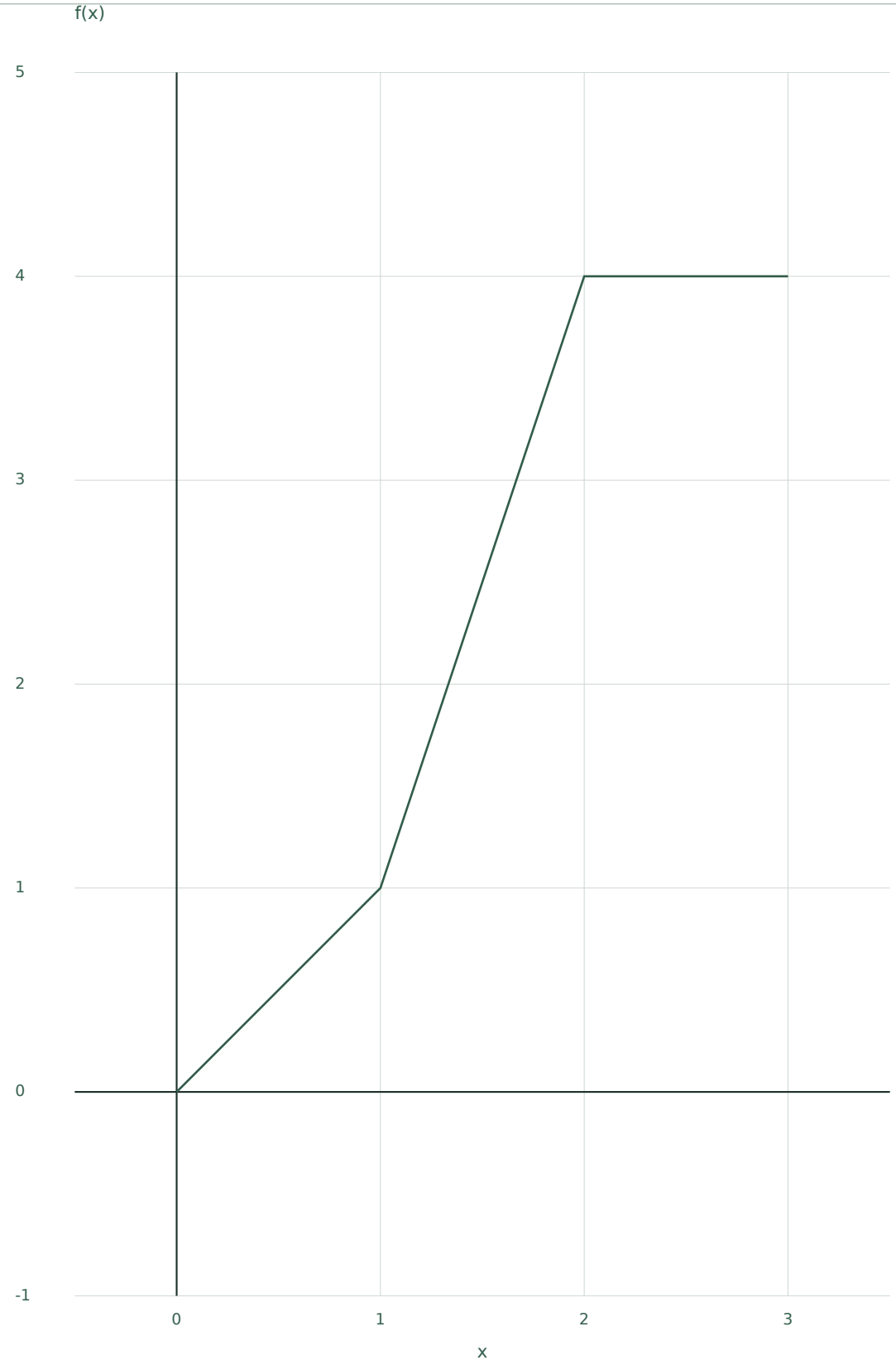
Exercise 2: Parabola Function



One square = one unit horizontally and vertically.

Sketching Derivative Graphs from Function Curves: A Visual Guide

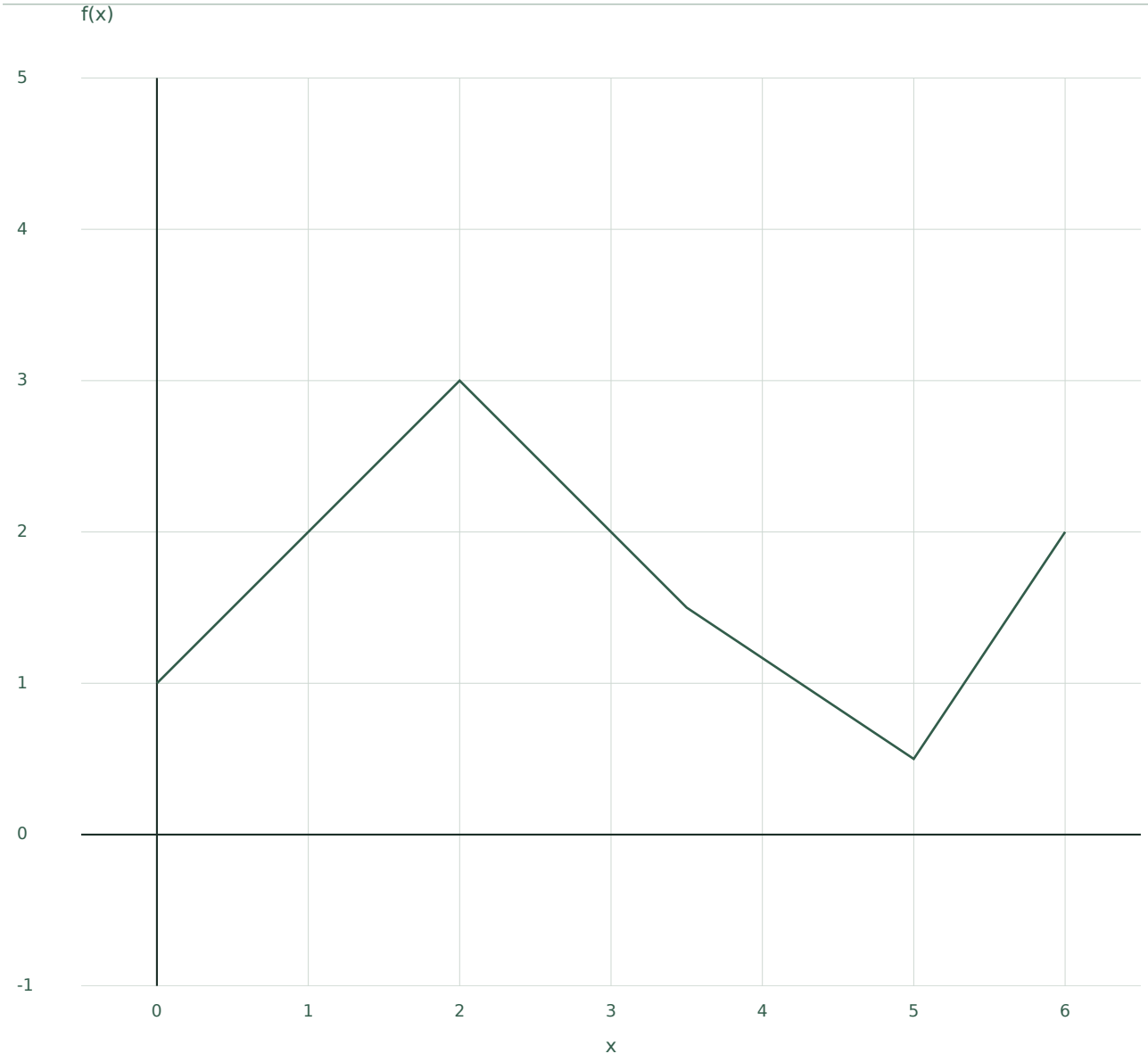
Exercise 3: Three-Segment Function



Sharp corners at x=1 and x=2.

Sketching Derivative Graphs from Function Curves: A Visual Guide

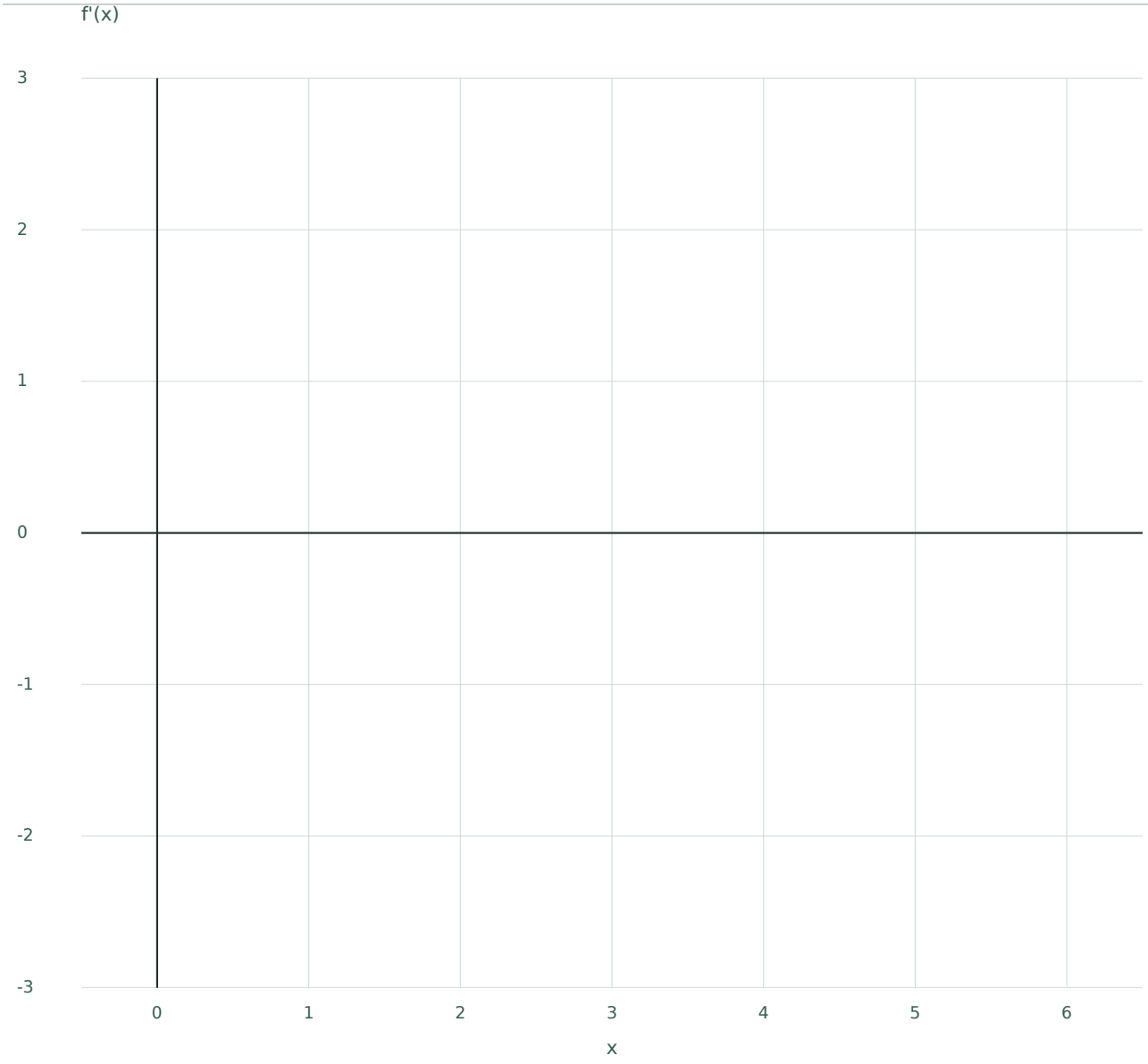
Exercise 4: Max/Min Function



Illustrative curve with max at x=2 and min at x=5.

Sketching Derivative Graphs from Function Curves: A Visual Guide

Exercise 4: Derivative Grid



One square = one unit of slope (hypothetical example).

Name: Date:

Vertical scale:

Sketching Derivative Graphs from Function Curves: A Visual Guide

Original tasks 1, 2, 3 / blank responses

Task 1

A function curve is the straight line through the points (0,0) and (2,4) on a grid where one square equals one unit horizontally and one unit vertically. Sketch its derivative graph on a grid with the same horizontal scale, using a vertical scale where one square equals one unit of slope. State the height of your derivative line as a hypothetical example.

Task 2

A function curve is a parabola opening upward with its vertex at (1,0). It passes through (0,1) and (2,1), falling for x<1 and rising for x>1. Sketch the derivative graph on a grid where one square equals one unit horizontally and one unit vertically, and describe its shape and zero location.

Task 3

A function curve is made of three straight segments meeting at sharp corners: it rises from (0,0) to (1,1), then rises more steeply from (1,1) to (2,4), then is flat from (2,4) to (3,4). Sketch the derivative graph on a grid where one square equals one unit horizontally and one unit vertically, using a labeled vertical scale, and describe the heights on each interval.

Sketching Derivative Graphs from Function Curves: A Visual Guide

Original tasks 4 / blank responses

Task 4

A function curve has a local maximum at x=2 and a local minimum at x=5. It rises before x=2, falls between x=2 and x=5, and rises after x=5. On a grid where one square equals one unit horizontally, sketch the derivative graph using a labeled vertical scale, and mark its zeros and sign changes.