Graphs of Functions and Derivatives Worksheet: Verify Slope-Sign Correspondence

Worked example / complete source key

A function graph rises on (-2, 1), falls on (1, 4), and has a local maximum at x = 1. A proposed derivative graph is positive on (-2, 1), negative on (1, 4), and zero at x = 1. Does the derivative graph correctly match the function graph?

Answer: Yes. The function rises where the derivative is positive, falls where the derivative is negative, and has a local maximum where the derivative is zero and changes from positive to negative. All three checks agree.