

Graphing $f'(x)$ When Given $f(x)$

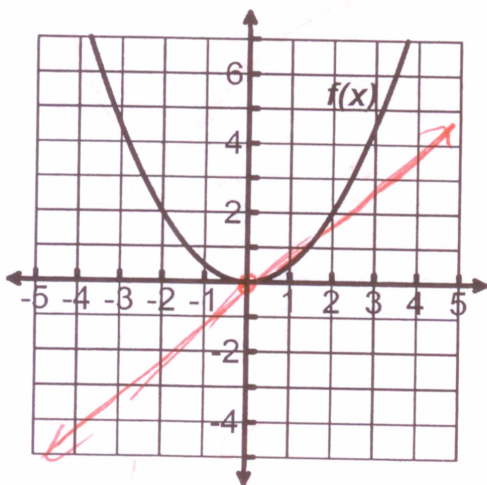
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1. Put dots on the x -axis where any slopes of $f(x)$ are zero, which will be the max/min or horizontal tangents on $f'(x)$. Now you will be connecting the dots.
2. Where $f(x)$ is increasing, draw the $f'(x)$ above the x -axis because the slopes are positive.
Where $f(x)$ is decreasing, draw the $f'(x)$ below the x -axis because the slopes are negative.
3. If $f(x)$ has any inflection points that change from concave down to concave up, there will be a minimum on $f'(x)$ at that x -value... if $f(x)$ changes from concave up to concave down, there will be a maximum on $f'(x)$ at that x -value.
4. The degree of any polynomial $f'(x)$ function decreases by one.

For 1 - 2, sketch the derivative on the same coordinate plane.

1.



2.

