

Lesson 5.5: Graphing Derivatives and Antiderivatives from Graphs

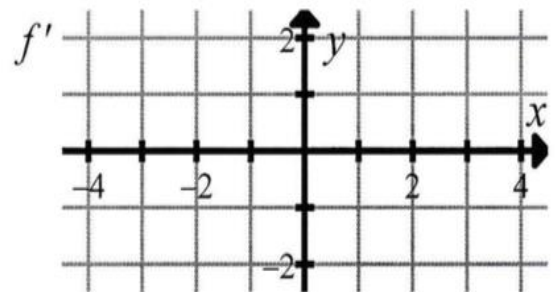
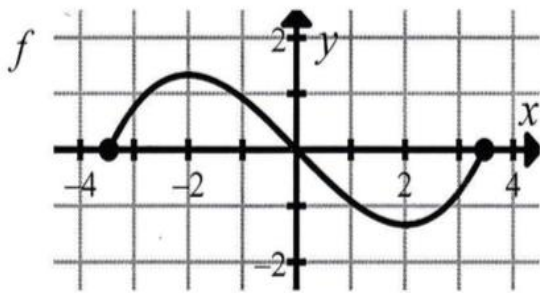
Derivatives

f graph \longrightarrow f' graph or f' graph \longrightarrow f'' graph

To graph a derivative of a function, find (or estimate) the _____ and plot them as points.

Example:

- Use the graph of f shown to sketch a graph of f' .



| | | | | | | | |
|-----------------|----|----|----|---|---|---|---|
| x | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| $f'(x) \approx$ | | | | | | | |

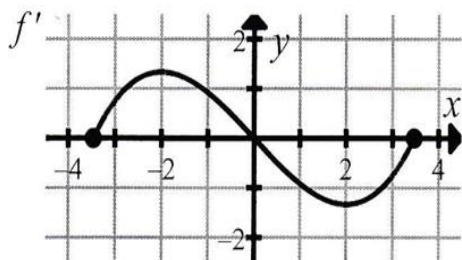
Antiderivatives

f' graph \longrightarrow f graph

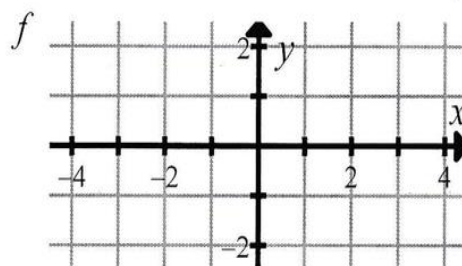
1. Make an f' number line by using the _____ or _____ of the points on the f' graph. This does **not** involve the slopes of f' .
2. Make an f'' number line by using the slopes of the f' graph.
3. Combine information from both number lines to graph f . If no starting point is given, you are free to shift the graph vertically.

Examples:

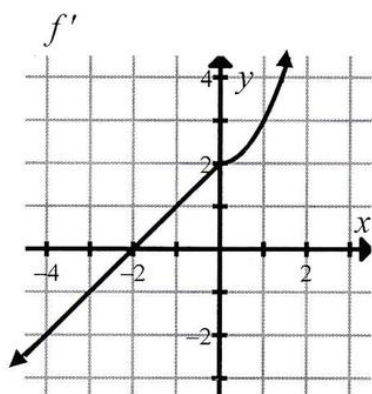
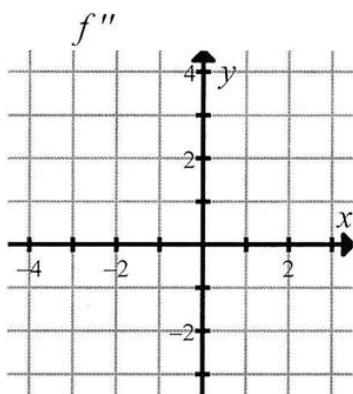
1. Use the graph of f' shown to sketch the graph of f with a starting point of $(0,1)$.



f' _____
 f'' _____



2. Use the graph of f'' shown to sketch the graph of f' and a possible graph of f .



f' \longleftrightarrow
 f'' \longleftrightarrow

