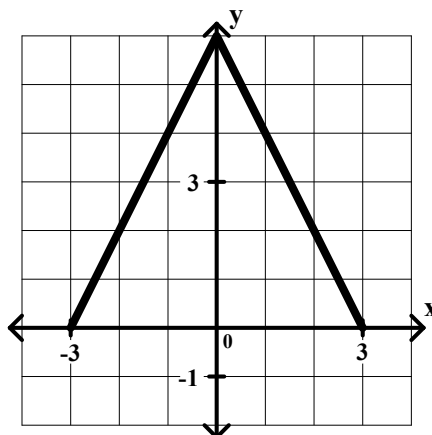


Advanced Challenge Level 2 Problem #24

The graph of the function f shown below consists of 2 line segments.



Let g be the function given by $g(x) = \int_0^x f(t) dt$ for any x in the domain of f .

- Find $g(-2)$, $g'(-2)$, and $g''(-2)$.
- Find $g(3)$, $g'(3)$, and $g''(3)$.
- For what values of x is g increasing?
- For what values of x is the graph of g concave down?
- Sketch the graph of g .