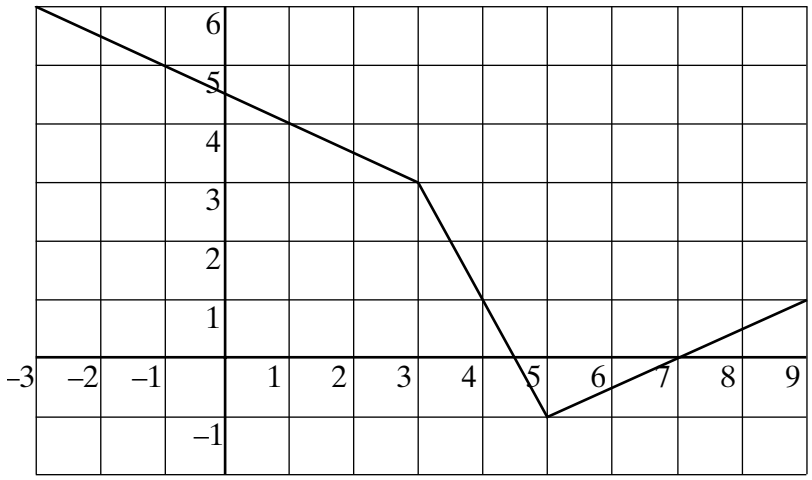

The graph of f

6. Let f be a function defined on the closed interval $[-3,9]$. The graph of f, consisting of three line segments is shown above. Let $g(x) = \int_0^x f(t)\,dt$.

   (a) Find $g(4.5)$, $g'(4.5)$, and $g''(4.5)$.
   (b) Find the average value of f on the closed interval $[-3,5]$. Show the work that leads to your answer.
   (c) Find the x-coordinate of any points of inflection of g. Justify your answer.
   (d) Find the coordinates of all maximum points of g.

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