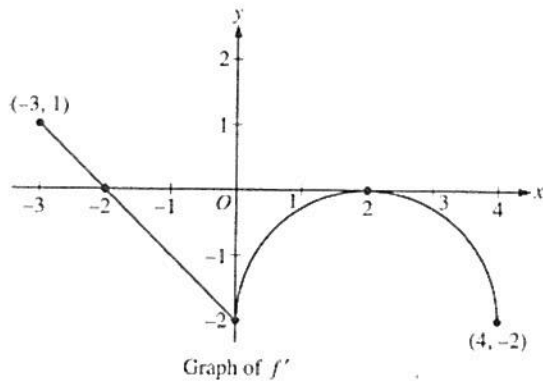


2003 AB 4



Let f be a function defined on the closed interval $-3 \leq x \leq 4$ with $f(0) = 3$. The graph of f' , the derivative of f , consists of one line segment and a semicircle, as shown above.

- On what intervals, if any, is f increasing? Justify your answer.
- Find the x -coordinate of each point of inflection of the graph of f on the open interval $-3 < x < 4$. Justify your answer.
- Find an equation for the line tangent to the graph of f at the point $(0, 3)$.
- Find $f(-3)$ and $f(4)$. Show the work that leads to your answers.