KEY

Graphical Differentiation

Use the graph of $y = f(x)$ given to answer the following questions. Exact values should be given, not approximations unless otherwise indicated. Use the symbols ∞, $-\infty$ and DNE appropriately.

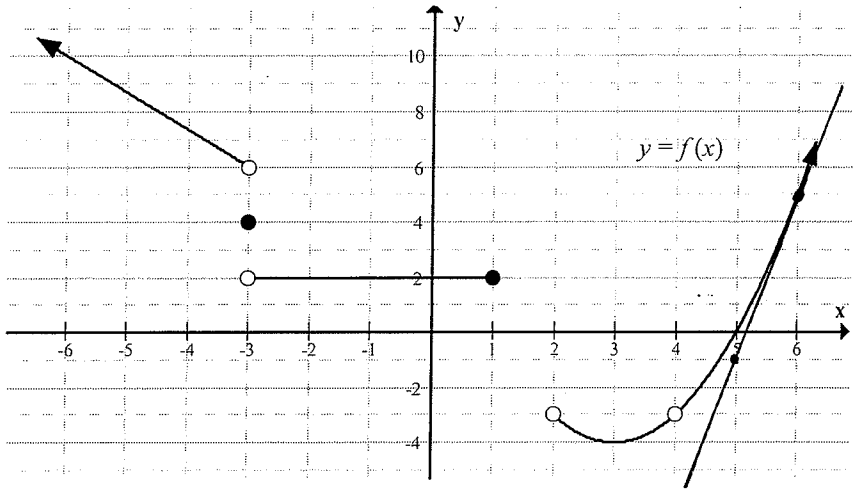
a) $\lim_{x \to -4} \frac{f(x) - f(-4)}{x + 4} = \frac{-4}{3}$

b) $\lim_{h \to 0} \frac{f(3+h) - f(3)}{h} = 0$

c) $f''(-2) = 0$

d) $f'(4) =$ DNE

e) $f'(6) \cong 6$



f) Carefully sketch the graph of $y = f'(x)$ on the grid below.