2. [11 points]

Shown to the right is the graph of a function $f(x)$.

Find each of the following values. If the value does not exist, write DOES NOT EXIST.

a. [3 points] Let $h(x) = f(3x + 1)$. Find $h'(1)$.

\[ h'(1) = \text{ } \]

b. [3 points] Let $k(x) = e^{f(x)}$. Find $k'(6)$.

\[ k'(6) = \text{ } \]

c. [2 points] Find $(f^{-1})'(0)$.

\[ (f^{-1})'(0) = \text{ } \]

d. [3 points] Let $j(x) = \frac{x + 1}{2x + 1}$. Find $j'(1)$.

\[ j'(1) = \text{ } \]