CALCULUS
Problem Bank
The quotient rule
\[
\frac{d}{dx} \left[ \frac{\sin x}{x} \right] = ??
\]

(a) \( \frac{(\sin x)(1) - (x)(\cos x)}{x} \)

(b) \( \frac{(\sin x)(1) - (x)(\cos x)}{x^2} \)

(c) \( \frac{(x)(\cos x) - (\sin x)(1)}{x^2} \)

(d) none of the above
\[ h'(x) = \frac{[g(x)][f'(x)] - [f(x)][g'(x)]}{[g(x)]^2} \]

\[ h'(4) = \frac{[g(4)][f'(4)] - [f(4)][g'(4)]}{[g(4)]^2} \]

(a) \( \frac{7}{6}, \frac{6 - 21}{3^2} \)

(b) \( \frac{7}{6}, \frac{21 - 6}{3^2} \)

(c) \( \frac{7}{6}, \frac{6 - 21}{6^2} \)

(d) none of the above

\( f(4) = 7, \ f'(4) = 1 \)
\( g(4) = 6, \ g'(4) = 3 \)
\( h(x) = \frac{f(x)}{g(x)} \)
\( h(4) = ??, \ h'(4) = ?? \)