

Math 182 Honors Quiz 7

Write the Taylor's formula expressed in little o-notation as $x \rightarrow 0$ for the following functions:

① $\ln(1+x)$

② e^x

③ $\arctan x$

Find the following limits. For full credit show your work using little o-notation.

$$(4) \quad \lim_{x \rightarrow 0} \frac{x - \sin x}{x^3}$$

$$(5) \quad \lim_{x \rightarrow 0} \frac{\arctan x - x e^{-\frac{1}{3}x^2}}{x^5}$$