quiz 17
math1117.07
u new haven
W06Nov

name: Solution

1 (4 points). Evaluate the derivative of $f(x) = \arcsin(\ln(x))$

2 (4 points). Without finding the inverse, evaluate the derivative of the inverse of $f(x) = 4e^{10x}$ at the point $(4, 0)$.

1) $$f'(x) = \frac{1}{\sqrt{1-(\ln(x))^2}} \cdot \frac{d}{dx}(\ln(x))$$

$$= \frac{1}{\sqrt{1-(\ln(x))^2}} \cdot \frac{1}{x}$$

2) $$(f^{-1})'(4) = \frac{1}{f'(0)} = \frac{1}{40e^{10x}}\Big|_{x=0} = \frac{1}{40}$$