quiz 16
math1117.02
u new haven
F08Nov

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

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

② $\cdot (f^{-1})'(4) = \dfrac{1}{f'(0)}$

$\cdot f'(0) = 40e^{10(0)} = 40$

$\cdot (f^{-1})'(4) = \dfrac{1}{40}$