MA 181 WORKSHEET (3.7)

Name _____

COMPUTE THE DERIVATIVES OF THE FOLLOWING FUNCTIONS:

1. $f(x) = \ln(\sin x) \sin (\ln x)$

2. $f(x) = \ln (e^x + \ln x)$

3. $y = (\cos x)^{\sin x}$

4. $y = (\sin x)^{x^2 + 3x}$

5. HOW ARE THESE FUNCTIONS DIFFERENT? FIND THEIR DERIVATIVES.

A. $y = (\sin x)^{\frac{\pi}{4}}$

B. $y = \left(\sin \frac{\pi}{4}\right)^{x}$

C. $y = \left(\frac{\pi}{4}\right)^{\sin x}$

D. $y = x^{\sin\left(x^4\right)}$

E. $y = \pi \sin\left(x^4\right)$