King **F**ahd **U**niversity for **P**etroleum and **M**inerals
Department of Mathematics & Statistics
Term 131 Math 101 (09) Quiz#7 (3.7 and 3.8)
Family Name: S.r#

Q1. Find y'

i. $y = (\ln x)^x$

ii. $y = 2^{3\ln x}$

iii. $3x = e^{x^2 y} + \ln|y|$

iv. $y = \dfrac{e^x (\sin x)}{(2x+1)^2}$ **, use logarithmic differentiation**

Q2. If f is invertible and passing through the points (1,0), (0,2), and (2,1).

Find $f'(2)$ if $\left.\dfrac{df^{-1}}{dx}\right|_{x=0} = 2$, $\left.\dfrac{df^{-1}}{dx}\right|_{x=1} = 3$, and $\left.\dfrac{df^{-1}}{dx}\right|_{x=2} = 4$

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Department of Mathematics & Statistics
Term 131 Math 101 (16) Quiz#7 (3.7 and 3.8)
Family Name: S.r#

Q1. Find y'

i. $y = x^{\ln(x)}$

ii. $y = x^{\ln 2} + x \ln 2$

iii. $\cot(y) = 2^x + \ln|xy|$

iv. $y = \dfrac{x^2(\cos x)}{e^x}$ **, use logarithmic differentiation**

Q2. If f is invertible and passing through the points (1,0), (0,2), and (2,1).

Find $\left.\dfrac{df^{-1}}{dx}\right|_{x=2}$ if $f'(0) = -1$, $f'(1) = -2$, and $f'(2) = 2$.