King **F**ahd **U**niversity for **P**etroleum and **M**inerals
Department of Mathematics & Statistics
Term 161 Math 101 (9) Quiz#4 (3.4, 3.5 & 3.6)
Family Name: S.r#

Q1. Evaluate $\left.\frac{dy}{dx}\right|_{(e,e)}$ if $x \ln x = y^{\ln x}$

Q2. Find y' if $y = \log_2\left(\sin^{-1}\sqrt{x}\right)$ (no need to simplify ..)

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Department of Mathematics & Statistics
Term 161 Math 101 (17) Quiz#4 (3.4, 3.5 & 3.6)
Family Name: S.r#

Q1. If $f(x)$ is a one-to-one differentiable function, and $g(x)$ is differentiable, use the given values to evaluate

x	$f(x)$	$f'(x)$	$g(x)$	$g'(x)$
–1	–2	1	2	2
1	–1	2	1	–1
2	1	3	3	1
3	2	4	2	3

i. $\left.\dfrac{d}{dx} g\left(f(x^2)\right)\right|_{x=-1}$

ii. $\left.\dfrac{d}{dx} f^{-1}(x)\right|_{x=1}$

Q2. Evaluate $\left.\dfrac{dy}{dx}\right|_{x=0}$ if $y = \dfrac{2^x(x^2+1)}{(\cos x)\ln|x+2|}$