King **F**ahd **U**niversity for **P**etroleum and **M**inerals
Department of Mathematics & Statistics
Term 162 Math 101 (8) Quiz#4 (3.4, 3.5 & 3.6)
Family Name: S.r#

Q1. If $y^{\ln x} = 2x \ln x$

a. Find y'.

b. Evaluate $\left.\frac{dy}{dx}\right|_{x=e}$

Q2. If $f(x)$ is a one-to-one twice differentiable function, use the given values in the table to evaluate

x	$f(x)$	$f'(x)$	$f''(x)$
–2	–3	0	1
–1	–2	1	2
1	–1	2	1
2	1	3	3

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

ii. $\left.\frac{d^2}{dx^2} \ln |f(x)|\right|_{x=-1}$