

King Fahd Univ. of Petroleum and Minerals
Faculty of Sciences
Department of Mathematical Sciences

QUIZ No. 3
(MATH. 101-041 Sections 4 & 8)

Name:

ID:

Prob. 1

- a) Show that $h(t) = t^3 - 3t^2 + 2t$ is not one-to-one on $(-\infty, +\infty)$.
b) Find the largest value of b such that h is one-to-one on $(-b, b)$.

Prob. 2

Find the limit

$$\lim_{x \rightarrow +\infty} \left(1 + \frac{7}{4x}\right)^{4x}$$

Prob. 3

Find

$$\frac{d}{dx} [\log_{\ln x} e]$$