

NAME: _____ ID: _____ Section: _____

Exercise 1 (5 points)

Express the given limit as a definite integral : $\lim_{n \rightarrow \infty} \sum_{i=1}^{i=n} \frac{e^{x_i}}{(1+x_i)^2} \Delta x$ on $[1, 5]$ (show all your steps)

Exercise 2 (5 points)

Evaluate the integral $\int \frac{\sin 2x}{1 - \sin^2 x} dx$ (show all your steps)

KFUPM – Department of Mathematics and Statistics – Term 091
MATH 102
QUIZ # 1 Code 2 (Duration = 20 minutes)

NAME: _____ ID: _____ Section: _____

Exercise 1 (5 points)

Express the given limit as a definite integral : $\lim_{n \rightarrow \infty} \frac{1}{n} \sum_{i=1}^{i=n} \frac{1}{1 + \left(\frac{i}{n}\right)^2}$ (show all your steps)

Exercise 2 (10 points)

Evaluate the integral $\int_0^{\frac{\pi}{2}} \frac{\sin x + \sin x \tan^2 x}{\sec^2 x} dx$ (show all your steps)

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Exercise 1 (5 points)

Express the given limit as a definite integral : $\lim_{n \rightarrow \infty} \frac{1}{n} \sum_{i=1}^{i=n} \frac{\ln(1 + \frac{i}{n})}{1 + (\frac{i}{n})^2}$ (show all your steps)

Exercise 2 (10 points)

Evaluate the integral $\int_0^{\frac{\pi}{4}} \frac{\cos x + \cos x \cdot \cot^2 x}{\csc^2 x} dx$ (show all your steps)

