

King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 101 (171) Sec 32 - Quiz 2

Name:

ID:

Serial No.:

1. If $y = \cos^{-1} \left(\frac{1 + 2 \cos x}{2 + \cos x} \right)$ and $0 < x < \frac{\pi}{2}$, then find $\frac{dy}{dx}$

2. $\lim_{x \rightarrow 1} \frac{\sin(x - 1)}{x^2 + x - 2}$

3. The position of a particle is given by the equation

$$s(t) = 2t^3 - 9t^2 + 12t$$

where t is measured in seconds and s in meters. Find the total distance traveled by the particle during the first 3 seconds.

4. For $f(x) = \frac{(x+1)(x+4)(x+8)e^{x^2}}{\sqrt{x+2}}$, find $f'(0)$