KFUPM | Term 153 | Date: 20/11/2016

Mathematics & Statistics | MATH 101 | Duration: 30 minutes

Quiz# 3

Name: | ID #: | Section:

1. The sum of all values of x at which the curve $y = \frac{x}{2} + \frac{1}{2x-4}$ has slope $\frac{-3}{2}$ is

2. Compute $f'(x)$ if $f(x) = \cot^{-1} 2x + \tan^{-1} \frac{1}{x}$.

3. Compute $\left.\frac{dy}{dt}\right|_{t=3}$ if $y = 2^{\log_3 t} - \log_3 2^t$.

4. Find y' *to* the curve $y = (x^2 + 3x)^{\cos y}$

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5. Let f & g be differtiable functions at x $= -1$ and f$(-1) = 3, f'(-1) = -5, g(-1) = 2, g'(-1) = 4. Then \left(\frac{f(-1)}{g(x)}\right)'(-1) =$

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6. If the position function of a body moving in a straight line is given by the function $s(t) = 2t^3 - 15t^2 + 36t\,,\ t \geq 0$; When is the particle speeding up? When it is slowing down?