Dr. Raja Latif. Math 101-073. ch.3 Quiz #4 MMM

NAME: _____. I.D. # _____ SEC: ___

(15) Q.1. A PARTICLE IS MOVING ALONG THE CURVE WHOSE EQUATION IS: $\frac{x y^3}{1+y^2} = \frac{8}{5}$

ASSUME THAT THE x-COORDINATE IS INCREASING AT THE RATE OF 6 UNITS/SECOND WHEN THE PARTICLE IS AT THE POINT $(1, 2)$. AT WHAT RATE IS THE y-COORDINATE OF THE POINT CHANGING AT THAT INSTANT?

(15) Q.4. 371 TB Let $y = x e^{\sin x} + x^{\cos x}$. Find $\frac{dy}{dx}$ AT $x = \frac{\pi}{2}$.

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(15) Q. 2. Sec. 3.1 Q.19 Let $F(x) = \sqrt{1+3x}$. FIND THE COORDINATES OF THE POINT(S) ON THE GRAPH OF F WHERE THE NORMAL LINE IS PARALLEL TO THE LINE $4x + 3y = 1$.

(15) Q. 3. 272 Tb 81. AT WHAT POINT ON THE CURVE $y = [\ln(x+4)]^2$ IS THE TANGENT HORIZONTAL?