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1.)	Find	the	slopes	Using	the	lin	tin	def	init	ion	5	2 511	xpee	s d	eriv	sati:	ves	•
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	c.)	$\frac{1}{\chi^2}$																-
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3. Differentiate the following functions: a.)  $y=31n^{2}(3x^{2}+4)$  $\cos(\sin(\cos(3x)))$ b.) c.) tan (IX sin(4x))

4.) Find the equation of the tangent line a.)  $y = ln(2x^2 - 7x + 4)$  at x = 3(b)  $\chi^{2} + \chi + \chi^{2} = 23$  at  $\chi = 4$ 

if  $f(x) = e^{x}g(x) + \sin(g(x))$  where g(x) = 2 g'(x) = 5and g''(x) = 7. Find f'(x) and f''(x). 5.)

(6.)  $f(x) + e^{x} \cos(f(x)) = 3x^{2}$ . find g'(0)



8.) Use logarithmic differentiation on the following a.)  $\gamma = \frac{x^5}{(1-10x)(1x^2+2)}$ b.)  $f(x) = x^{2x}$ C.)  $y = (1-3x)^{\cos(x)}$ 

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