QUIZ 6

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Time: 15 minutes

Problem 1. Does the equation $\dfrac{2x(x+2)}{(x^2+1)^2} = 1$ have any solutions on the interval $[0,1]$?

(a) Yes (b) No

Problem 2. What is the derivative of the function $f(x) = x^2 e^{2x}\sqrt{x+1}$?

(a) $2xe^{2x}\sqrt{x+1} + x^2 2e^{2x}\sqrt{x+1} + \dfrac{x^2e^{2x}}{2\sqrt{x+1}}$

(b) $(2xe^{2x} + x^2e^{2x})\sqrt{x+1} + \dfrac{x^2e^{2x}}{2\sqrt{x+1}}$

(c) $4xe^{2x}\sqrt{x+1} + \dfrac{x^2e^{2x}}{2\sqrt{x+1}}$

(d) $2xe^{2x-1}\sqrt{x+1} + \dfrac{x^2e^{2x}}{2\sqrt{x+1}}$

(e) both (a) and (b)

Problem 3. What is the instantaneous rate of change for $f(x) = \tan(x^2 + e^{5e^{2x}})$?

(a) $\sec^2(x^2 + e^{5e^{2x}}) \cdot (2x) \cdot (e^{5e^{2x}} \cdot 5 \cdot 2)$

(b) $\sec^2(2x + e^{5e^{2x}} \cdot 5e^{2x} \cdot 2)$

(c) $\sec^2(x^2 + e^{5e^{2x}}) \cdot (2x) \cdot (5e^{2x} \cdot 2)$

(d) $\sec^2(x^2 + e^{5e^{2x}}) \cdot (2x + 5e^{2x} \cdot 2)$

(e) $\sec^2(x^2 + e^{5e^{2x}}) \cdot (2x + e^{5e^{2x}} \cdot 5e^{2x} \cdot 2)$

(f) None of the above

Problem 4. Find the derivative of $\cos(x\sin(x\tan x))$.

(a) Just (b) kidding you don't (c) have to do this (d) circle me