Review: ☺ Must show your work to get credit ☺ **NON-CALCULATOR**

1. What is the equation of the tangent line to the curve $y = e^{2x}\ln(x)$ where $x = 1$?

a.) $y = e^2(x-1)$

b) $y = -e^2(x-1)$

fc) $y = e(x-1)$

d) $y = -e^{-2}(x-1)$

e) $y = e^{-2}(x-1)$

2. The sum of two positives numbers is 5. What is the value of the larger number if the product of the smaller number and the cube of the larger number is a maximum?

a.) 5

b) $\dfrac{15}{4}$

c) $\dfrac{5}{4}$

d) 1

e) 0

3. For $f(x) = \dfrac{2x-4}{x^2-x-2}$, which of the following is true?

I. f(x) has no relative extrema?

II. There are vertical asymptotes at $x = 2$ and $x = -1$.

III. There is a horizontal asymptote at $y = 0$.

a.) I only

b) II only

c) III only

d) I and III only

e) I, II, and III

4. Let $F(x) = \int_1^x \cos(\pi t^2)\,dt$. What is the value of $F'(2)$?

a.) -4π

b) -1

c) 0

d) 1

e) 4π

Answers:

1.)	A	2.)	B	3.)	D	4.)	D