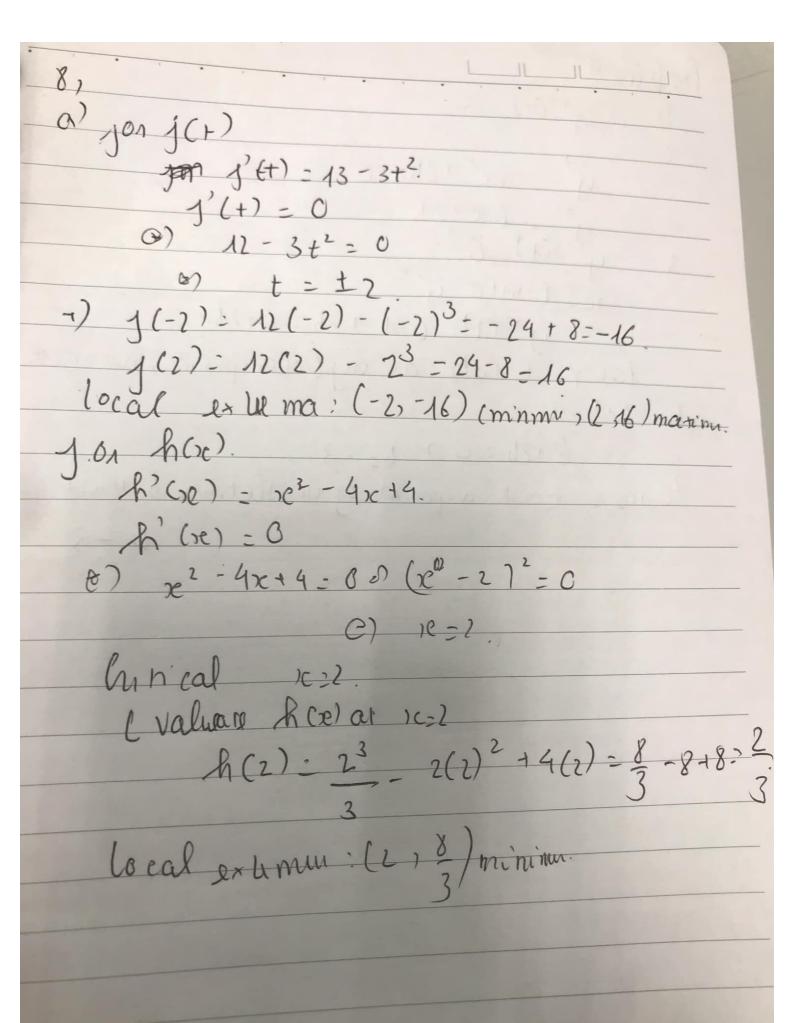
Golden 2 . 1. 1(x) = Vx(1-x) is continuos on (0,1) because r (1-x) always is positive Within this interval $\int_{-\infty}^{\infty} f(x) = \frac{1}{2\sqrt{x(1-x)}} = \frac{1-2x}{2\sqrt{x(1-x)}}$ This de viative exists jou all e e (0,1), so j (re) is differentiable on (0,1) 3. Sinj(x) sanspir the conditions of the MUT, there enisis a point e e (0,1) 1'(c): 1(0) 1(1)=0 , 1(0)=0 7) 1-1(c):0 1-20, We get c=1 Thus, jcx: Je(1-x) sawspres the Moan Value Theorem on LO. 1) with c=1

Profum 3: +) y y = 27c y=0=) re2+8re+15=0 y? = 2re + 8 Problem 4. B) y= 1e3 - 3se2 + 4= (1e+4)(1e-2)2. 20 (0) [X2-1 33x2 1216x = 10(5c-9)(10-29

67 J(x)= x4 + 3x+1, x E[-2;-1]. 1(-2)=11,1(-1)=-11. One 2020 in [-2;-1]. 1) $1/(\theta)$: $1+\frac{2}{3}$ $sm/\frac{4}{3}(cos/\frac{4}{3})$ 2. One 2020 sm (0) is continue and 1/10 clossing chaye orign T (0): _19°C , T (14): 100°C.

MTT, T'(c): 100-(-19 = 8,5°C/sec

Robling: y"(1):0 4 = 37c2 + 2bx+c re: 1 wto y" y" (1): 6.1 + 2b: (+25. for x=1 tobe on inglector perint, reneed 6 126 = 00 6= -3. 10 mars x=1 a porint of in flina, b must



Caculus 1 Tutorial 5. Problem 1. AP = Vx2+4. PB = V(10-x)2 + 25. AP + PB: 12+4 + V(10-x)2+25. $(x^2+4)^2$ + $((10-x)^2)$ 2 V (10-10)2 25. 2e + -2.(10-x) 2 V(10-1e)2+25 t -(10-x) let from if and only y : 12 lx) = 0 (10 -1c)2-128 (10-10)2+25. r 2 20/7 KI.ONG