Tena 6 " Noveme o moughogues" 1. Kan in upousbogtiyo bapaxemus: a. Sinx-cosx (sinx-cosx) = (cosx) sinx + (sinx) cosx = - sinx-sinx+ cosx-cosx = = - Sin x + cos X 6. (a (2x+1)3 $(\ln(2x+1)^3)' = 3\ln(2x+1)^2(\ln(2x+1))' = 3\ln(2x+1)^2 \frac{2}{2x+1} = \frac{6\ln(2x+1)^2}{2x+1}$ C. Vsin (la (x3)) $\left(\sqrt{sin^2(L_0(x^3))}\right)' = \left(\left(sin(L_0(x^3))\right)' = \frac{sin(L_0(x^3))}{\left(sin(L_0(x^3))\right)'} = \frac{sin($ $=\frac{\sin(3\ln x)\cdot\cos(3\ln x)\cdot 3\cdot \frac{1}{x}=\frac{3\sin(3\ln x)\cdot\cos(3\ln x)\cdot 2}{x\left|\sin(3\ln x)\right|}=$ = 3 8in(6 lux) 2X/Sin(3Cux) $d. \frac{\chi^4}{Cu(\chi)}$ $\left(\frac{x^4}{\operatorname{Cu}(x)}\right)' = \frac{(x^4)' \cdot \ln x - x^4 (\ln x)'}{\ln^2 x} = \frac{\ln^3 \ln x - x^4 \cdot \frac{4}{x}}{\ln^2 x} = \frac{4 x^3 \ln x - x^3}{\ln^2 x}$ 2. Найчи выражение производной функции и её значение в жоке f(x)= cos(x2+3x), x0= TF $f(x) = (\cos(x^2 + 3x))' = -\sin(x^2 + 3x) \cdot (2x + 3)$ f(x0) = - sin((V) +3V). (2V+3) = - (sinTi cos3V+ cosTi sinxT). (2T+3) = = Sin(3 (7,) (2 (7, +3) = -5,38 3. Havitu znazenne npouzbognois pynkeisun 6 tozke: $f(x) = \frac{x^3 - x^2 - x - 1}{1 + 2x + 3x^2 - 4x^5}, x_0 = 0$ $f'(x) = \frac{(3x^2-2x-1)(1+2x+3x^2-4x^3)-(x^3-x^2-x-1)(2+6x-12x^2)}{(x^3-x^2-x-1)(2+6x-12x^2)}$ (1+2x+3x2-4x3)2 $f(v_0) = -\frac{(\cdot 1 - (-1) \cdot 2)}{1} = 1$

4. Maire year harrona racaterenci k spagning prinsery 6 roshe: $f(x) = \sqrt{3}x \cdot \ln x, \ x_0 = 1$ $f'(x) = (\sqrt{3}x)' \ln x + \sqrt{3}x \left(\ln x\right)' = \frac{3 \ln x}{2 \sqrt{3}x} + \frac{\sqrt{3}x}{x}$ $f'(x_0) = \frac{3 \ln 1}{2 \sqrt{3} \cdot 1} + \frac{\sqrt{3} \cdot 1}{1} = \sqrt{3}$ $f'(x_0) = \frac{3 \ln 1}{2 \sqrt{3} \cdot 1} + \frac{\sqrt{3} \cdot 1}{1} = \sqrt{3}$

X = 60°