Üb

$\rightsquigarrow p(x) = a(x-0)(x-1)(x-3)$

$= a \cdot x \cdot (x^2 - 4x + 3) = a \cdot (x^3 - 4x^2 + 3x)$

$p(2) = a \cdot (2^3 - 4 \cdot 2^2 + 3 \cdot 2) = a \cdot (8 - 16 + 6) = a \cdot (-2)$

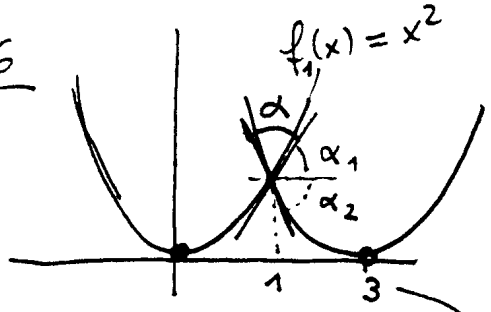
$p(2) = a \cdot (-2) = -2 \Rightarrow a = 1$

$\Rightarrow p(x) = x^3 - 4x^2 + 3x$

$p'(x) = 3x^2 - 8x + 3 \quad , \quad p'(0) = 3$

$\alpha = \arctan(3) \approx 71°, 5651$

6



$f_2(x) = ax^2 + bx + c$

$a = ?$

$\rightsquigarrow f_2(x) = a \cdot (x-3)^2 = ax^2 - 6ax + 9a$

$f_2(1) = f_1(1) = 1 = a(1-3)^2 = a \cdot (-2)^2 = a \cdot 4$

$\Rightarrow a = \frac{1}{4}$

$f_2(x) = \frac{1}{4}x^2 - \frac{2}{3}x + \frac{9}{4}$

α_1: $f_1'(x) = 2x, \quad f_1'(1) = 2, \quad \alpha_1 = \arctan 2 \approx 63°.4349$

α_2: $f_2'(x) = \frac{1}{2}x - \frac{2}{3}, \quad f_2'(1) = \frac{1}{2} - \frac{2}{3} = -\frac{1}{6}, \quad \alpha_2 \approx -9°,46232$

$\Rightarrow \alpha_1 + \alpha_2 \approx 53°.9726$

$\alpha = 180° - (\alpha_1 + \alpha_2) \approx 126°.027$