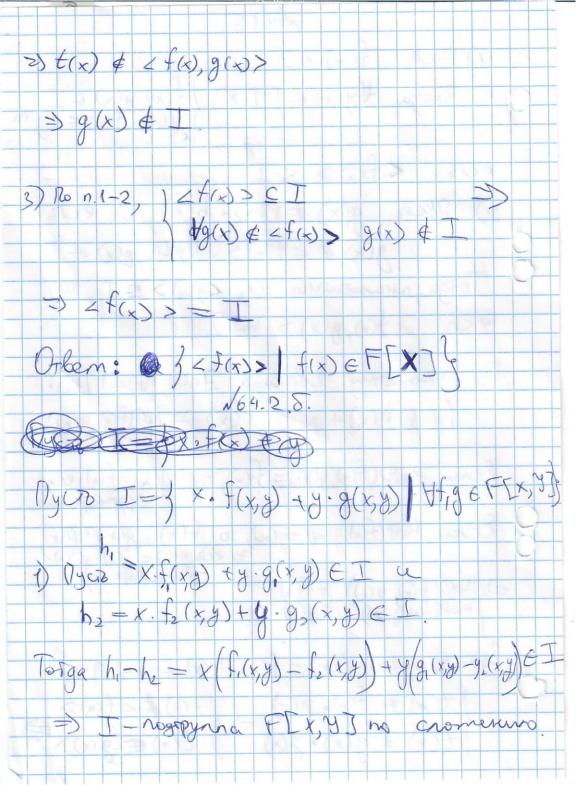
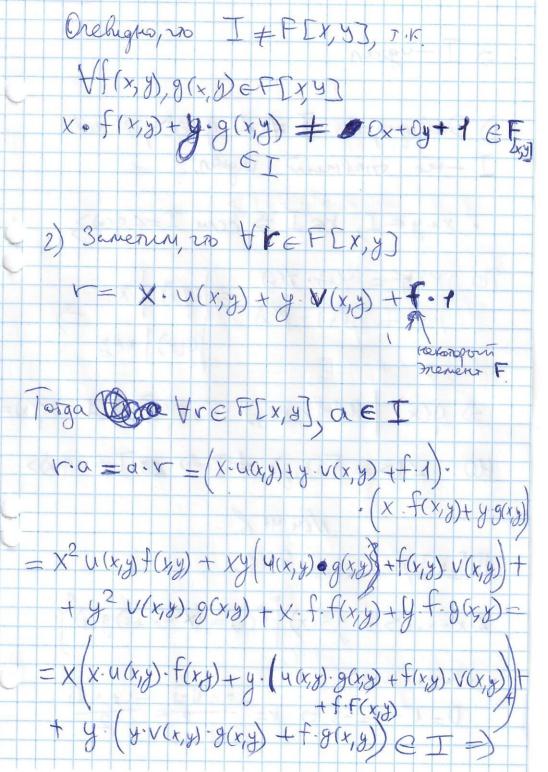
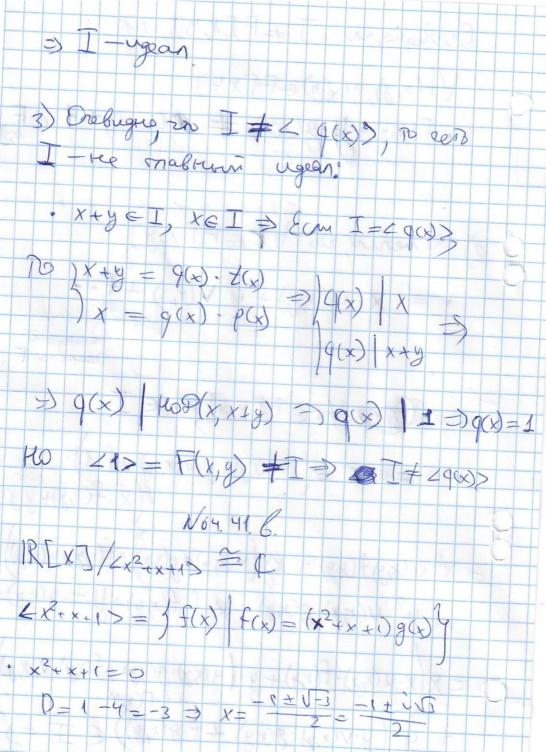
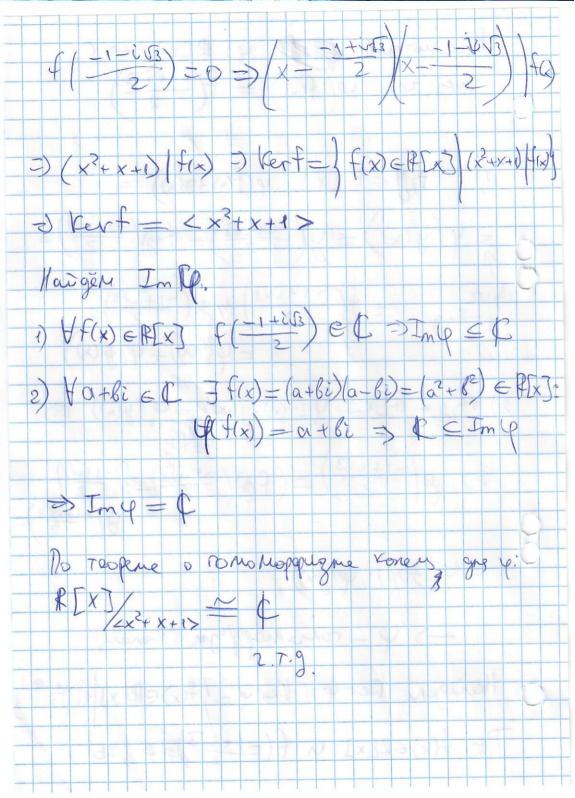
164.15. 1) Pycho $f(x) \in I$ Torga $\forall y(x) \in F[x]/f(x).y(x) \in I$ $y(x).f(x) \in I$ ecib < f(x) > 9 I 2) Myers g(x) + f(x) . h(x), ro ecro g(x) \$ < f(x) >. By (is g(x) & I Todga, aranosurro ny (g(x)> & I, no e(x) = f(x), g(x) > CTo anotherny Ebernga, $\mathbf{J}h(\mathbf{x})$, $q(\mathbf{x}) \in F[\mathbf{x}]$: $f(\mathbf{x}) \cdot h(\mathbf{x}) + g(\mathbf{x}) \cdot q(\mathbf{x}) = k\omega P(f(\mathbf{x}), g(\mathbf{x}))$ Econ (10) (f(x),g(x)) = f(x), To g(x) = f(x) e(x) Ecan HoD(f(x), g(x)) = g(x), to $f(x) = g(x) \cdot \rho(x)$ To ear $g(x) = f(x) \cdot \rho^{-1}(x)$ -Hondoperue +g(x) +g(x)Saverum, 200 £(x) = f(x) · h(x) + g(x) · g(x):

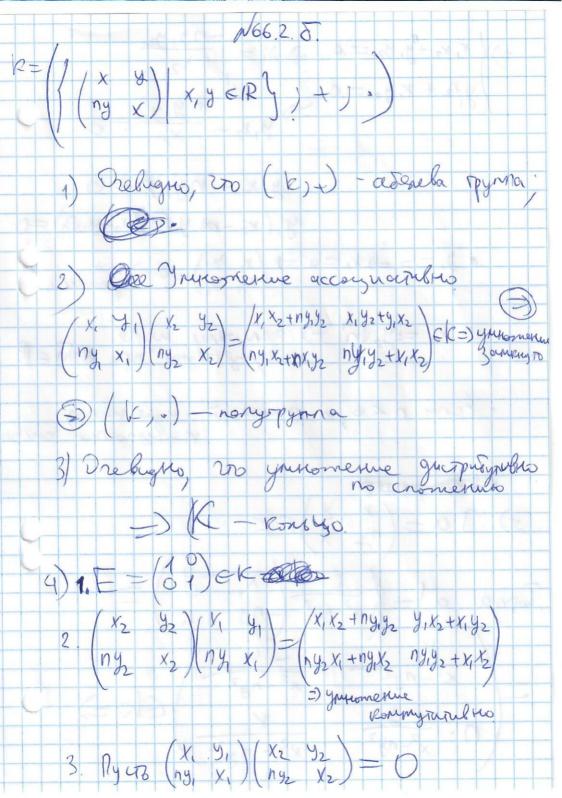


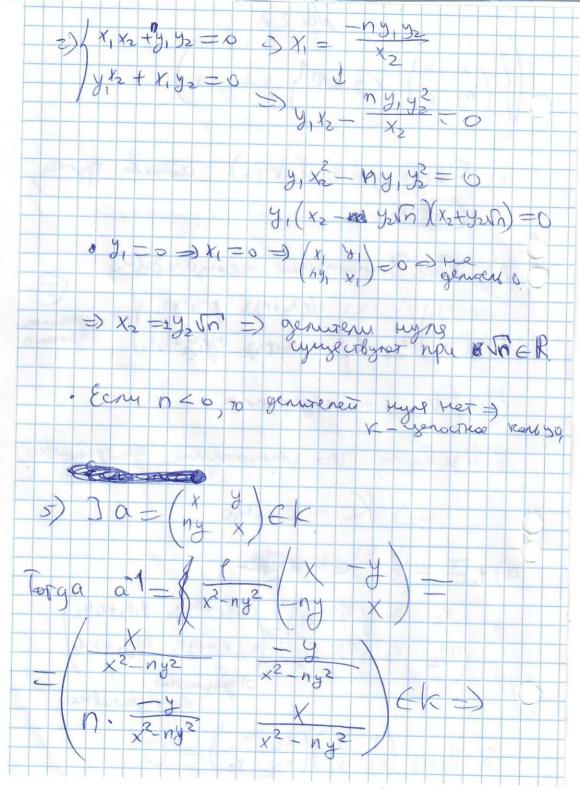


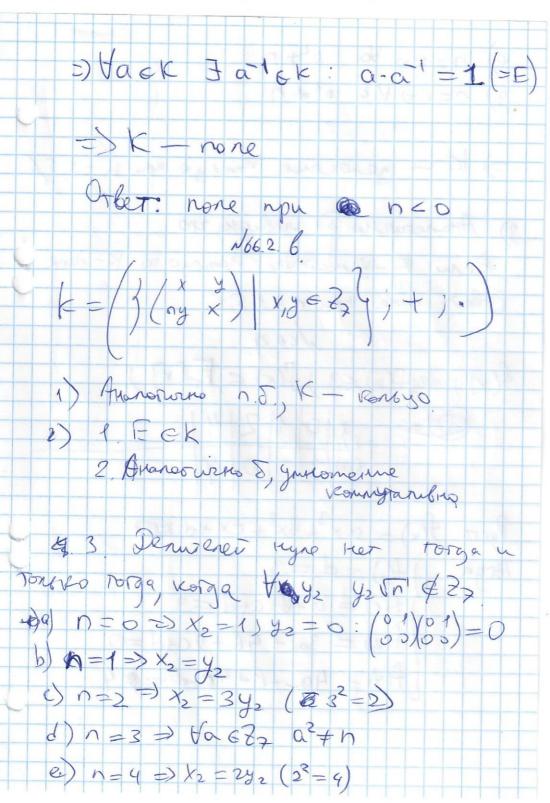


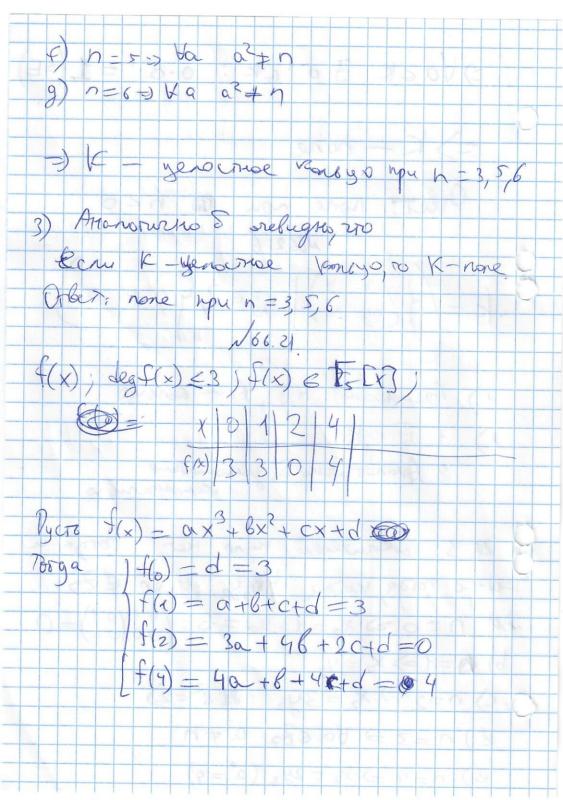
Paccuorpun $\varphi: \mathbb{R}[x] \longrightarrow \mathbb{C}$ Tary, $xo \quad \varphi(f\omega) = f(-1+i\sqrt{3})$ 1) Vf, g = P[x] y(f(x)+g(x)) = $= \varphi(y(x)) = y(-1+i\sqrt{3}) = (+i)(-1+i\sqrt{3}) =$ $y = 1+g = f(-1+iv_3) + g(-1+iv_3) = (6.)$ $= \varphi(f(x)) + \varphi(g(x))$ 2) \\fig \in \mathbb{R[x] \q (\fix) \cdot g(x)) = \q (\y(x)) \end{align* $= \varphi(f(x)) \cdot \varphi(f(x))$ -> 4- romanopopyn Roney. Hanigen Fery: Kery= ff(x) = P[x] f(-12)=] T.K. +(x) GREX] U f(-1+2/3)=0,70

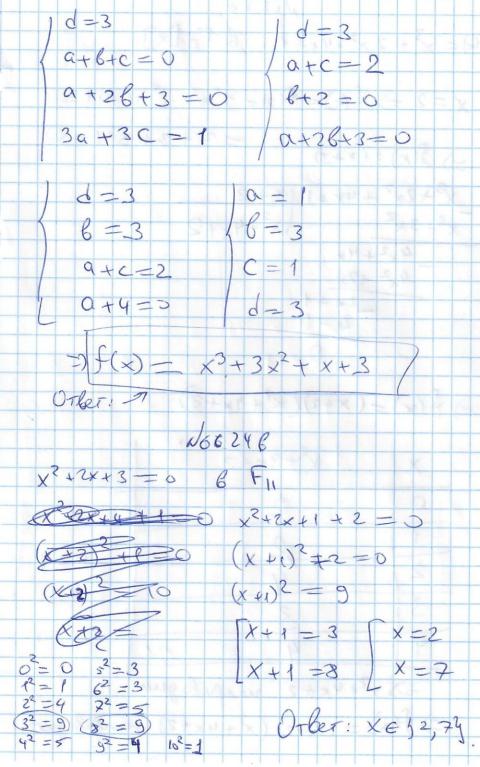


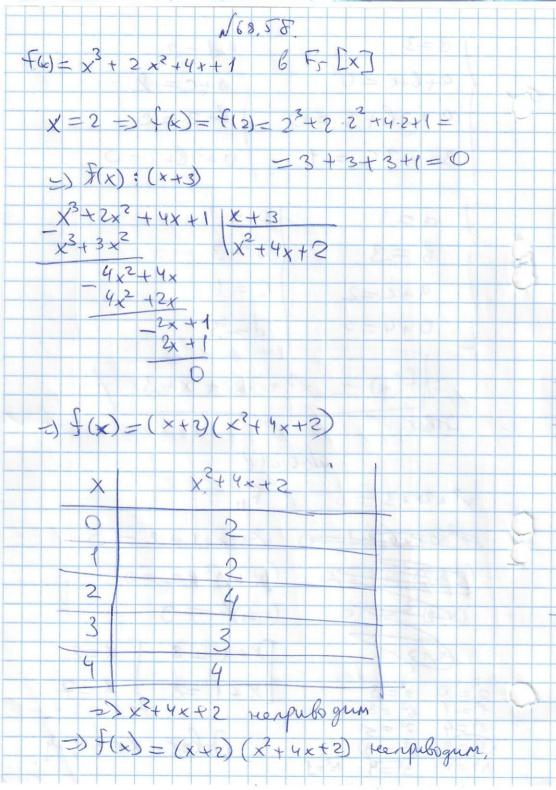






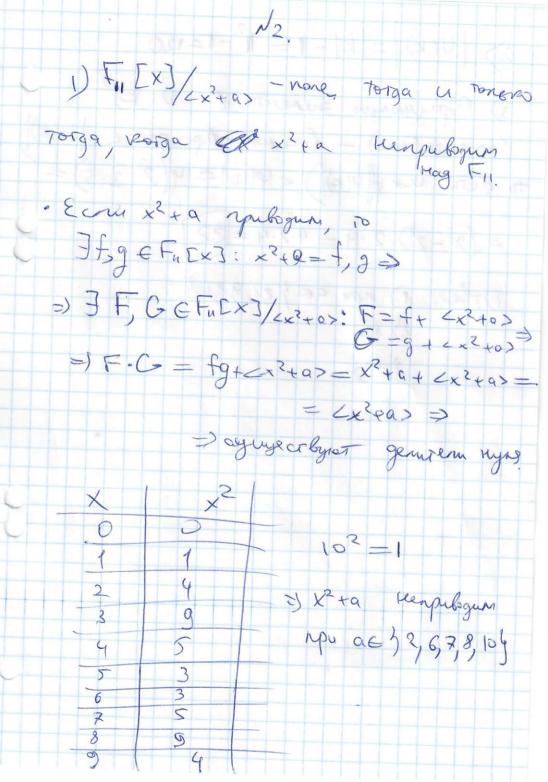






N68.5 F. 5) x4 + 3x3 + 2x2 + x + 4 & F5[x] =) f(x)=(x2+ax+b)(x2+cx+d)= = x4 + cx3 + 6x3+ ax3+acx7 adx+ + 6x2+6cx+8d= = x4+ x3(a+0)+x2(d+ac+b)+x(ad+b)+bd a+c=3 > 163 d+ac+b=214a+c=1 ad+ Bc=1 [Bd = 4 =)]d=4 Cumerpornose chyran. [2(q+c)=1 2) a, c & f =yac = 3late=3 | a+c=3 |3(a+0)=1=)0,C&Fs /9C=1 =) $f(x) = (x^2 + x + 1)(x^2 + 2x + 4)$ Offer Offer

Pacemorphin & [X]/ (x3+x+1). (2) 12, x2+1, 2+x x+ x+14 0 | P | X | X+1 | x2 | x2+1 | x2 + x | x2 + x + 1 0000000 01 X X+1 x2 2+1 2+x x3+x+1 0 X x2 x4 X X41 1 x2+x+1 x2+1 X+1 x2+1 x2+1 x2+1 x2 1 X () x2 X+1 x24 X+1 x+X X x2+1 1 x2+1 0 x2 X x2+x+1 x+1 x2 X 3+x x3x+1 1 2+1 X+1 X X2 xtxtID · x3+x+1~ 0 x4=x(x3)~ X(x+1)=x2+x x3+x~1



2)
$$|U(R)| = |R| - 1 = 120$$

3) Ospazypuzne Enementin b $U(R)$
(apunutubriore) — b_{3} eunino-topocotre c $|U(D)|$, to $e^{-1}c^{-1$