GROZA IULIA DIANA

Question 2

Ac M2(iR), det (2A2+612)=0=>det A=? det (2A3+612)=0 (=) (=) 4det(A2+Bi2)=0,(=) (=) det(A2-Tr(A)Á+det(A)í2+3/2+Tr(A)A--det(A)i2)=0 (=) (-) det (3)2+Tr(A)A-det (A)12)=0(=) (=) det (Tr(A)A+ (3-det(A)12) = 0 0 det(xA+yiz) = | xa11+y xa12 | = | xa21 xa2+y | $= (xa_{11}+y)(xa_{22}+y)-x^{2}a_{12}a_{21}=$ $=x^{2}a_{11}a_{22}+xya_{22}+xya_{11}+y^{2}-x^{2}a_{12}a_{21}=$ $= \chi^{2}(a_{11}a_{22}-a_{12}a_{21}) + \chi y(a_{11}+a_{22}) + y^{2} -$ =x^2det A + xy Tr(A) + y^2 (2) Using Dim O, we abtain: det (4-(A) A+(3-det (A)) (2) =0 (=)

ANAID- AILUI ASONO (=) Tr2(A) det A + Tr(A)(3-det A)+(3-det A)=0(3 (=)37,2(A)+9+det(A)-6det(A)=0(=) (=) The equation should have just one solution = 0 (=) 36-4(3Tr (A)+9)=07 (=) 36-12Tr(A)-36=0 => Tr(A)=0. The equation becomes: $\angle det^{2}(A) - 6 det(A) + 9 = 0 (=)$ (=) $(det(A) - 3)^2 = 0 = 0$ det(A) = 3

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