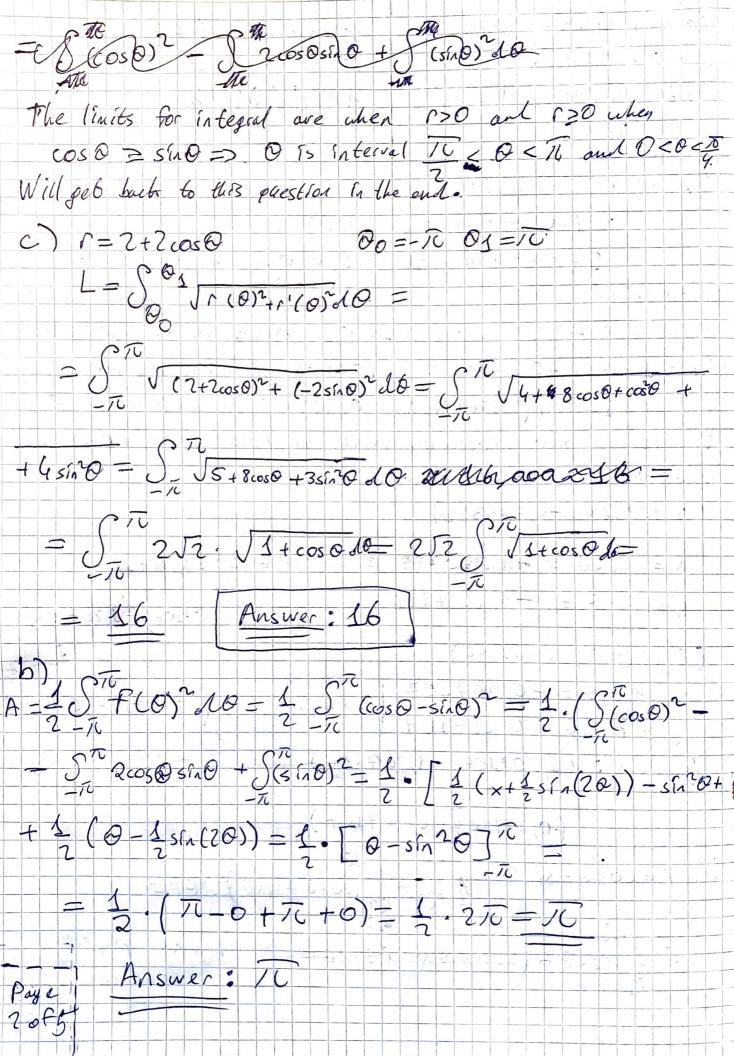
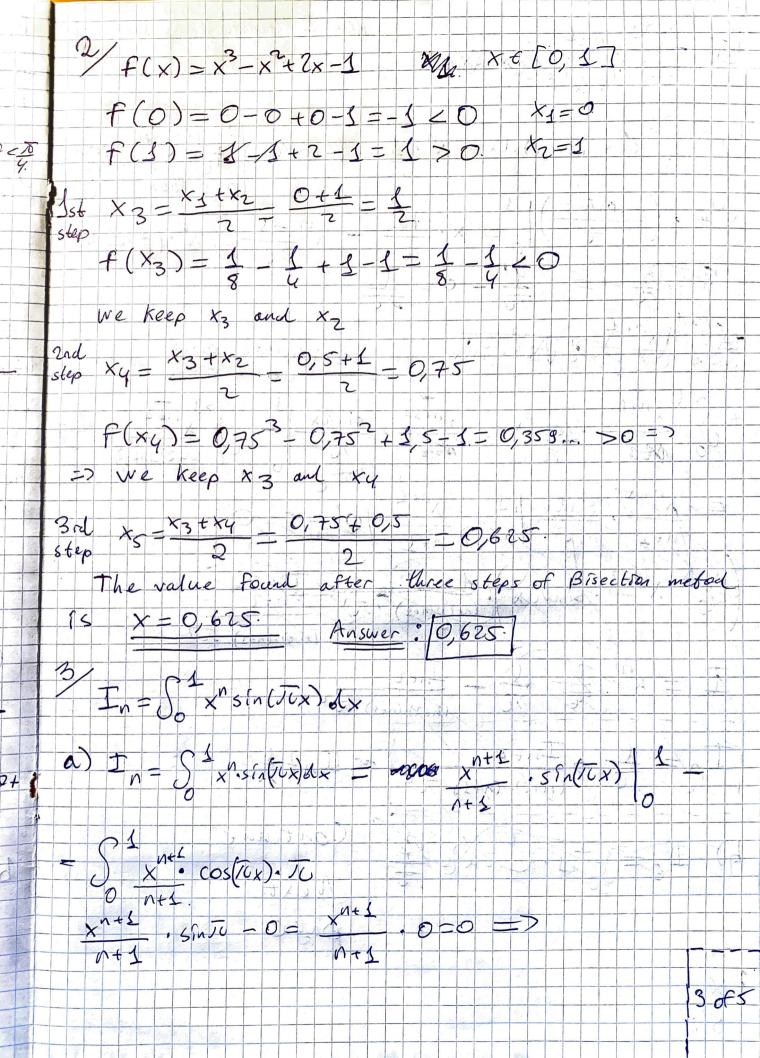
Mathematics OD2 Pavel Ghazaryan Take-home Exam ID:10756505 MATH 19872 Date: Monday, May 24th 2021 1. a) r=1-sinca) x+y=0 -> MOSBIX (5826 BISOL= 1924 y=-x=>m=-1 and c=0=> (Polar coord) two answers because period IL r=1-512 tan 0=-1 => 0 = arctan-1 => 0= -0,78539 or 2,35619449 1st  $\Gamma = 1 - s(n(-0,78539) = 1,707106$  so coord (1,707106; Q) 2nd r=1-sin (2,35619449) = 0,292893 so coon (0,292893; Pz) We found two intersection points in Polar form, now we need to make them Carteston: (1,707106)-0,785398)  $X = C \cos \Theta = Adjoins (1, 207306229 \sigma 1, 707306)$  $y = r \sin \theta = -1, 207106$ first point (1,207106; -1,207106) (0,292893) 2,356194) => Second point (-0,207/07) 0,207/07)  $x = r\cos\theta = -0,207107$ y= rs1,0=0,207107 Answers: (1,207106; -1,207106) (-0,207107,0,207107) b) r=cos0-sin0 Agent (cos0+sin0) to2 As cos 0 = 2 cos sino (sínio) do Next page continue.





The Comment of derive xn Here I integrate sin Dy and  $I_n = \int_{0}^{\sqrt{2}} x \int_{0}^{\sqrt{2}} (T(x)) dx = x^{n-1} \cdot (-\cos T(x)) \int_{0}^{\sqrt{2}} \int_{0}^{\sqrt{2}} \frac{1}{\sqrt{2}} \frac{\cos T(x)}{\sqrt{2}} dx$  $\times^{n} = \left(\frac{-\cos x}{\pi}\right) \begin{vmatrix} 1 \\ 0 \end{vmatrix} = \times^{n} + \frac{1}{\pi} = \times^{n} - \frac{1}{\pi} = (x^{n} - \frac{1}{\pi}) = (x^{n} - \frac{1}$  $\frac{1}{\sqrt{10}} = \frac{1}{\sqrt{10}} = 0 = \frac{1}{\sqrt{10}}$ Tintegrate costos

derive x1-1.  $\frac{1}{\sqrt{2}} = \frac{1}{\sqrt{2}} = \frac{$ (n+2).(n+5) (06) frior Intil Continue Next paye

