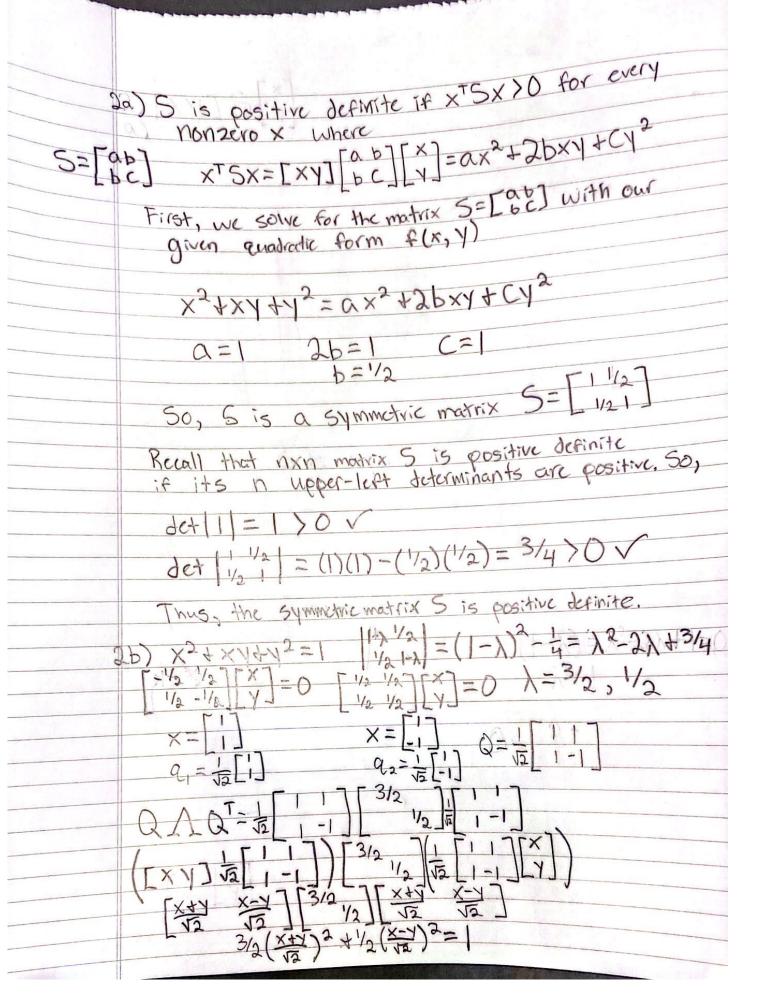
HW8 Rauscher Peta I pledge my nonor that I have abided by the Stevens Honor = 5 thus 5 is symmetric then S is positive definite det[4]=4)(= 4(25)-8(8)=100-64=36>0 =4(252-92)-8(8(25)-9(0))+0 =4(544)-8(191) 648 >0 V Thus, S is positive definite. First, climination 480 80 R3->R3-R2 090 R2-> R2-2R1 8 25 9 0025 0 9 25



```
2b) 3/2 (3x)2 + 1/2 (3x)2=1
        342+2V2=1 Where U= 12 V= 12
       4-axis: V=0 x-1
        V-\alpha \times iS: N=0 \frac{\sqrt{3}}{\times 4} = 0 \left[\begin{array}{c} \lambda \\ \lambda \end{array}\right] \int_{0}^{2\pi} \left[\begin{array}{c} \lambda \\ \lambda \end{array}\right]
        3 = 12/3 = 12
       The minor axis is 12/3 in direction
        The major axis is $2 in direction
      M_3 = (3)(-2) - (1)(-2-a) + (a)(1+2a)
= -6 + 2 + 0 + 2a^2
M_3 = 2a^2 + 2a - 4
         above 1, M3 becomes positive, and below -2 it
             also becomes positive. Thus, for (0,0,0) to
        be a point of local maximum for f,
           a must be in the range of
                        (-2,1)
                       noninclustre
```