

Show all work. 5 points each.

1) Draw at least 4 different vectors in the vector field  $\mathbf{F}(x, y) = \langle y, x \rangle$  .

2) Evaluate the integral  $\int_C y \, ds$  where  $C: x = t^2, y = t, 0 \leq t \leq 2$ .