

Please sign your name: _____

Quiz 7: Find the line integral of the vector field $\mathbf{F} = (x^2y, 3y^{1/2}, z)$ along the curve given by $\mathbf{r}(t) = ((\ln t)^2, \ln t, \sqrt{1 + \ln t})$, $t \in [1, 2]$.

Quiz 6 make-up: Consider the volume enclosed in the first octant by the surface $x^2 + y + z = 4$

- a) Find and sketch the intersections of this surface with the three coordinate surfaces.
- b) Set up the triple integral for this volume, in the order $dx dy dz$
- c) Set up the triple integral for this volume, in the order $dy dz dx$
- d) Use one of the above integrals to calculate the volume of this object