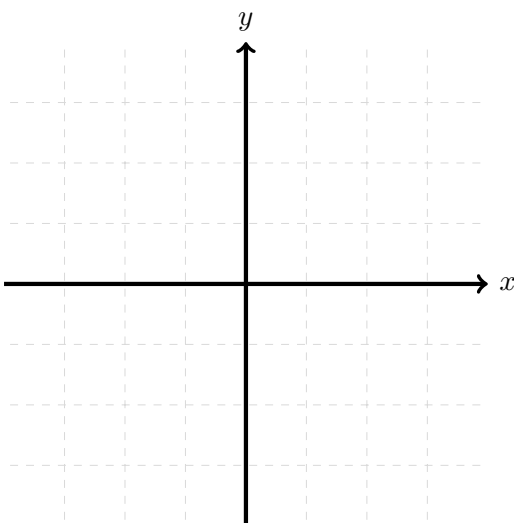


Full name: _____ GT ID: _____ Sec: _____

Quiz 2 Version D

You have 15 minutes to take the quiz. No phones, notes, or use aids of any kind is permitted.

1. (4 points) On the axes provided, sketch the cross-sections parallel to the plane xy -coordinate plane of the surface $z = x^2 + y^2$ for $z = 0$, $z = 1$, and $z = 4$. Clearly label the axes and your graphs. Then, identify the quadratic surface by choosing one of the options given. [A]



- ☐ elliptical paraboloid
☐ hyperbolic paraboloid
☐ elliptical cone
☐ ellipsoid

2. (6 points) **[Unit Tangent & Normal, Curvature]**

Find the unit tangent vector \mathbf{T} for the given curve segment, and find the length of the curve. [AJN]

$$\mathbf{r}(t) = \langle 2 \cos t, 2 \sin t, t - 1 \rangle, \quad t \in \mathbb{R}$$