alysis II - Deggeller/Gleason/Tantod
Unit 3, Quiz 2 - 2019/20
[30 points]

I'm Lost in Space: ____________________
Per: ____

1. Matching: Math each quadric surface below to its corresponding name. [2 pts each]

A: Plane B: Hyperboloid of 1 Sheet C: Hyperboloid of 2 Sheets D: Ellipsoid

E: Elliptic Cone F: Hyperbolic Paraboloid (saddle) G: Elliptic Paraboloid H: None of the Above

1. $x + y + z = 0$ ______ 2. $x^2 - y^2 = z^2 - 8$ ______ 3. $x^2 + y^2 + z^2 = 8$ ______

4. $x - y^2 = z^2$ ______ 5. $x^2 - y^2 = z + 8$ ______ 6. $x^2 + y^2 = z^2$ ______

2. Sketch a picture of, and write the equation for a circular cylinder with center: (1,2,3), and radius=10 that extends forever in the y direction. Note that this cylinder actually has infinite centers, so consider (1,2,3) just one of them. [5]

Sketch:

Equation: ____________________

3. Sketch a picture of, and name the following curve $x^2 + z^2 = y^2 - 36$ [5]

Sketch:

Name: ____________________

4. Sketch a picture of, and write an equation for a plane that has x-intercept: (3, 0, 0), y-intercept (0,
and z-intercept (0,0 -10) [5]

Sketch:

Equation: ____________________

5. The quadric surface $y^2 = x + z$ is surprisingly a parabolic cylinder. Use 3 different xy traces (3 different values for z) to explore what it might look like, and draw a sketch. Show all your work. You may do additional traces too if you'd like! [3]

z=_____ trace

z= ____ trace

z= ____ trace