

**Quiz #4; Tuesday, date: 02/13/2018**  
**MATH 53 Multivariable Calculus with Stankova**  
**Section #114; time: 2 – 3:30 pm**  
**GSI name: Kenneth Hung**  
**Student name:**

1. Reduce the equation to one of the standard forms, classify the surface, and sketch it.

$$x^2 - y^2 - z^2 + 2x - 6z - 8 = 0.$$

2. *True / False?* Consider a space curve given by the vector equation  $\mathbf{r}(t)$ . If all of its projections onto  $xy$ -plane,  $yz$ -plane and  $xz$ -plane are smooth, then the curve itself must be smooth.
3. *True / False?* One of the ways to visualize a space curve is to show it on a surface.