MATH 2263 SECTION 10 QUIZ 2

Name: _____

Time limit: 15 minutes

1. (10 points) Reduce the equation
$$4x^2 + y^2 + 4z^2 - 4y - 24z + 36 = 0$$
to one of the standard forms and **state** which kind of quadric surface it represents.

2. (10 points) Show that the limit
$$\lim_{(x,y)\to(0,0)} \frac{y^3 \sin^2 x}{xy^4 + x^5}$$
does not exist. **Explicitly** state along which paths you are evaluating the limit.

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3. (10 points) Find the domain of the function $G(x, y) = 4 + \sqrt{25 - x^2}$ (in the form $\{(x, y) : \dots\}$) and then sketch the domain in the xy-plane.