Student ID:

Student Name:

Serial Number:

Math 201, Section 12
Fall 2016, Term 161

Quiz 3
Version A

Instructions: Show Your Work!

1. (4 pts) Find parametric equations for the line through the point $(1, 0, -1)$ and perpendicular to the plane $3x + 2y + z = 0$.

2. (3 pts) Show that the two planes $x + y - z = 1$ and $2x - 3y + 4z = 7$ are neither parallel nor perpendicular.

3. (3 pts) Describe the level surfaces of the function

$$f(x, y, z) = 4 + 4x^2 - y^2 + 4z^2.$$

Student ID:

Student Name:

Serial Number:

Math 201, Section 15
Fall 2016, Term 161

Quiz 3
Version B

Instructions: Show Your Work!

1. (4 pts) Find parametric equations for the line through the point $(-2, 2, 4)$ and perpendicular to the plane $2x - y + 5z = 12$.

2. (3 pts) Show that the two planes $x + y - z = 1$ and $2x - 3y + 4z = 7$ are neither parallel nor perpendicular.

3. (3 pts) Describe the level surfaces of the function

$$f(x, y, z) = 1 + x^2 - y^2 - z^2.$$