# Math 2513 – Summer 2024

# Quiz 2

Name: Student ID:

1 – What is the equation of a line that is parallel to the x-axis and goes through the point (1,2,3)? (1)

2 – Show that Clairault’s Theorem holds for the equations (2)

1. f(x,y,z) = 2x2 + 5y – 3z3
2. g(x,y,z) = sin(xy) + z

3 – Answer the following questions for the formula f(x,y,z) = x2 + 6x + y2 – 8y + z2 + 12z: (2)

1. Rewrite this equation into a more standard form. What is the shape of this surface?
2. What is a point of contact between this surface and a tangent plane parallel to the xy-plane?