Student ID:

Student Name:

Serial Number:

MATH201, Section 2
Fall 2018, Term 181

Quiz 5
Version A

Instructions: Show Your Work!

1. (3 pts) Use the Chain rule to find $\partial z/\partial s$ and $\partial z/\partial t$ for

$$z = \tan(u/v), \qquad u = s + t, \quad v = s - t$$

2. (3 pts) Find $\partial z/\partial x$ and $\partial z/\partial y$ at the point $(0, 1, 1)$ if

$$x^3 + 2y^3 + z^3 - \cos(xyz) = 2$$

3. (4 pts) Find all points at which the direction of the fastest increase of the function

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

is $\langle 1, 1 \rangle$.

Student ID:

Student Name:

Serial Number:

MATH201, Section 3
Fall 2018, Term 181

Quiz 5
Version B

Instructions: Show Your Work!

1. (3 pts) Use the Chain rule to find $\partial z/\partial s$ and $\partial z/\partial t$ for

$$z = \tan(u/v), \qquad u = 2s + 3t, \quad v = 3s - 2t$$

2. (3 pts) Find $\partial z/\partial x$ and $\partial z/\partial y$ at the point $(1, 0, 1)$ if

$$x^3 + 2y^3 + z^3 - \cos(xyz) = 1$$

3. (4 pts) Find all points at which the direction of the fastest increase of the function

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

is $\langle 1, 2 \rangle$.