Unit 2 - Week 1

Assignment 1

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

1. Let \( f(z) = \frac{1}{z} \). Consider the following statements:
   - (a) \( f(z) \) is continuous for all \( z \).
   - (b) \( f(z) \) is not differentiable at any point \( z \).
   - (c) \( f(z) \) is not continuous at any point \( z \).
   - (d) \( f(z) \) is not differentiable at any point \( z \).
   - (e) \( f(z) \) is not continuous at any point \( z \).

2. Let \( f(z) = \frac{1}{z} \). Consider the following statements:
   - (a) \( f(z) \) is continuous for all \( z \).
   - (b) \( f(z) \) is not differentiable at any point \( z \).
   - (c) \( f(z) \) is not continuous at any point \( z \).
   - (d) \( f(z) \) is not differentiable at any point \( z \).
   - (e) \( f(z) \) is not continuous at any point \( z \).

3. Let \( f(z) = \frac{1}{z} \). Consider the following statements:
   - (a) \( f(z) \) is continuous for all \( z \).
   - (b) \( f(z) \) is not differentiable at any point \( z \).
   - (c) \( f(z) \) is not continuous at any point \( z \).
   - (d) \( f(z) \) is not differentiable at any point \( z \).
   - (e) \( f(z) \) is not continuous at any point \( z \).

Due on 2019-02-13, 23:59 IST.
Consider the vector field \( F(x, y) = \text{tor}(1, 2) \): By recognizing the corresponding complex function \( F(x, y) = x + 2iy \), a complex potential \( G(x) \) for the vector field is

\[
G(x) = \int F(x) \, dx = x + 2iy + c
\]

No, the answer is incorrect.

1 point

Consider the vector field \( F(x, y) = \text{tor}(1, 2) \): By recognizing the corresponding complex function \( F(x, y) = 2x - 3iy \), a complex potential \( G(x) \) for the vector field is

\[
G(x) = \int F(x) \, dx = 2x - 3iy + c
\]

No, the answer is incorrect.

1 point

Consider the vector field \( F(x, y) = \text{tor}(1, 2) \): By recognizing the corresponding complex function \( F(x, y) = -y - 1z \), a complex potential \( G(x) \) for the vector field is

\[
G(x) = \int F(x) \, dx = -y - 1z + c
\]

No, the answer is incorrect.

1 point