Name: _____

Please write clearly and show all of your work.

Let D be the image of $R = [1, 2] \times [0, 6]$ under the map $\Phi(u, v) = (u^2, u + v)$.

1. Compute the Jacobian of Φ.

2. Use the Change of Variables Formula to compute $Area(D)$.

   [Note: It is not necessary to describe D.]