

Quiz

Name _____

1. Find the following partial derivatives.

(a) $w = ue^{u^2+v}$

$w_u =$

$w_v =$

2. Thirty rats jump ship and start breeding on a island. Assume that the populations of rats grows at a rate proportional to the size of the population and that six months after they arrive that there are 90 rats.

- (a) Write the differential equation satisfied by the size to the rate population labeling all variables.

- (b) Find a formula for the number of rats on the island t months after they arrive.

- (c) How many rats are there five years after they arrive?