Name : .... **ID** #...............................Sec# .... Serial #: ....

Question 1 [5 points]: Solve the following differential equation by separation of variables.

$$x(1+y)dx = y(1+x^2)^{1/2}dy$$

Question 2 [5 points]: Solve the following linear equation

$$(1+t)\,\frac{dx}{dt} = x + 1 + t.$$