APC area between curves QUIZ NAME_____

ALL NON_CALCULATOR

1) Given the following functions

f(x) = $\sqrt{3 - X}$ g(x) = X – 1 X = 0

a) Sketch the space that is bounded by those functions:
b) Setup, but do not solve, an integral expression or expressions that could get you the area of the space using HORIZONTAL slices.
c) Setup, but do not solve, an integral expression or expressions that could get you the area of the space using VERTICAL slices.
d) Show that the area of that space is $\frac{-2}{3} + 2\sqrt{3}$

e) Now suppose we have a new space that is the intersection of the f(x) and g(x) functions from above but instead of x = 0 we have y = 0. How much bigger is the first space than this new space? (your answer will be in fractional radical form, it will look weird)
f) No there is not really a part f, just go on to the next problem.

2) Let the region R be the space enclosed by the following graphs:
y = $-x^2$ + 9 and y = 9 and x = 3

a) There is a line at y = K such that the region R is being cut in half. Set-up and equation that you could use to solve for K.

b) There is a line x = N that divides the space into N equal parts. Set-up and equation that you could use to solve for N.