Quiz Name: _____

In the first two problems find the indicated derivatives:

1. $H(u,v) = \dfrac{u+\sin(v)}{u-\cos(v)}$

$\dfrac{\partial H}{\partial v} =$

2. $A = t^4(4t^3+t)^3\sqrt{t-3t^2}$

$A' =$

3. The volume V of a right circular cylinder with base of radius r and height h is $V = \pi r^2 h$.

(a) What is the full microscope equation for V at the point where $r = 2$ and $h = 3$? (The answer should be a sentence.)

(b) If we start with a cylinder with $r = 2$ and $h = 3$ and put a weight on top of it so that h is decreased to $h = 2.8$ but the volume stays the same, then estimate the new radius. (The answer should be a sentence.)