Math 101-162-Quiz #4

Name: **ID** **Serial:**

Q1: If $e^{\frac{x}{y}} = x - y$, find $\frac{dy}{dx}$

Q2: If $f(x)$ is one – one twice differentiable function, use the given values in the table to evaluate

x	$f(x)$	$f'(x)$	$f''(x)$
-2	-3	0	1
-1	-2	1	2
1	-1	2	1
2	1	3	3

1. $\frac{d}{dx} f^{-1}(x)\Big|_{x=-1}$

2. $\frac{d^2}{dx^2} \ln|f(x)|\Big|_{x=-1}$

Q3: particle moves according to the following equation $s = e^{-\frac{t}{2}}$, where is measured in second and in feet. Where is the particle is speeding up?

Q4: the area of a circle is decreasing at a rate $\frac{8\pi}{9}\ cm^2/min$. At what rate is the radius of the circle changing when the area is $\frac{\pi}{9}\ cm^2$