236 Quiz 5

February 22, 2011 **Name** _____

By printing my name I pledge to uphold the Honor Code.

Work on your own with only your notebook.

1. Fill in the table below for each sequence. The first sequence is done for you as an example. If a sequence fails to be monotonic you can write "not monotonic." If a sequence has no least upper bound you can write "no *lub*," and similarly for greatest lower bounds. You do not need to show your work. Don't be afraid to *think*.

Sequence	(Eventually? Strictly?) Increasing/Decreasing?	Least Upper Bound? Greatest Lower Bound?	Diverges? Converges? (to what?)
$\left\{\frac{k}{k+1}\right\}$	always strictly increasing	$lub = 1$, $glb = \frac{1}{2}$	converges to 1
$\left\{\frac{k!}{10^k}\right\}$		*(skip glb)*	
$\left\{\frac{k^2}{k!}\right\}$			
$\left\{\frac{(k!)^2}{(2k)!}\right\}$			
$\left\{\cos(\frac{\pi}{2}k)\right\}$			
$\left\{k^{\frac{2}{k}}\right\}$		*(skip glb)*	