It is known that as $x$ increases, that $x^x$ eventually exceeds $x!$ without bound. It is also know that as $x$ increases, $x!$ eventually exceeds $a^x$ without bound, for any positive fixed value of $a$. However, it is much more difficult to compare the growth rates of $(ax)!$ and $x^x$. We will examine this problem and show that in the case where $a$ is greater than one, that $(ax)!$ exceeds $x^x$ without bound. (Received February 28, 2017)