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Daniel Gallab* (dgallab@zagmail.gonzaga.edu), Gonzaga University, 502 E Boone Ave,
Spokane, WA 99258. *Comparing the Growth Rates of $(ax)!$ and x^x .*

It is known that as x increases, that x^x eventually exceeds $x!$ without bound. It is also known 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)