The Question in question:

12. What is the correct ordering of growth rates for the following functions:
   • \( f(n) = n^{0.9} \log n \)
   • \( g(n) = 1.1^n \)
   • \( h(n) = 9.9n \)

(A) \( g < f < h \)
(B) \( g < h < f \)
(C) \( h < f < g \)
(D) \( f < g < h \)
(E) \( f < h < g \)
(F) \( h < g < f \)

I understand it this way:
\( f(n) = n \log n \)
\( g(n) = 2^n \)
\( h(n) = n \)

Which would yield the answer of \( h < f < g \), but according to some reliable sources, the correct answer is \( f < h < g \).
I cannot, for the life of me, figure out why? Want to help me?

Subject: Re: Question #12: Order Notation
Posted by smmitchell2 on Tue, 24 Jan 2017 03:23:32 GMT

n^{0.9} \log n is just n^{0.9} because \log n grows so slowly that n grows faster. So the answer is f < h < g.

Subject: Re: Question #12: Order Notation
Posted by bmbaker1 on Tue, 24 Jan 2017 03:30:54 GMT

That makes sense... Thank you!