Eclipse, Kliezl P. Exercise 2.2 – 5

Q: List the following functions according to their order of growth from the lowest to the highest:

$$(n-2)!, 5\lg(n+100)^{10},\ 2^{2n}, 0.001n^4+3n^3+1, \ln^2 n, \sqrt[3]{n}, 3^n.$$

A:

1- (lowest) $5\lg(n+100)^{10}$
2- $\ln^2 n$
3- $\sqrt[3]{n}$
4- $0.001n^4+3n^3+1$
5- 2^{2n}
6- 3^n
7- (highest) $(n-2)!$