Seminar2

1.

A) n^2 e O(n^3)

Limn->infinity f(n) / g(n) = limn 1/n = 0, where f(n)=n^2 and g(n)=n^3

b)

n^3 e O(n^2)

limn f(n)/g(n) = limn n = infinity => FALSE

BIG O = CONSTANT

TETA = NON-ZERO CONSTANT

c) 2^(n+1) e Teta(2^n)

limn f(n)/g(n) = 2 !=0 TRUE

d) 2^2n e Teta(2^n)

limn f(n) / g(n) =2^n = infinity => False

e) n^2 e Teta(n^3)

limn f(n)/g(n) = limn 1/n = 0 => False

f) 2^n e O(n!)

limn f(n)/g(n) =

limn 2^n+1-2^n / n!\*n = 0 => True (?)

g) log10(n) e Teta log2(n)

limn f(n) / g(n) = limn log2(n)/log2(10)\*log2(n) = 1/log2(10) !=0 => True

h)O(n) +Teta(n^2) = Teta(n^2):

…

Stirling’s approximation (?)