For each of the following pairs of functions, either f(n) is O(g(n)), f(n) is Ω(g(n)), or f(n) = Θ(g(n)). Determine which relationship is correct and explain.

a.	$f(n) = n^{0.25}$;	$g(n) = n^{0.5}$
b.	$f(n) = n$;	$g(n) = \log^2 n$
c.	$f(n) = \log n$;	$g(n) = \lg n$
d.	$f(n) = e^n$;	$g(n) = 2^n$
e.	$f(n) = 2^n$;	$g(n) = 2^{n+1}$
f.	$f(n) = 2^n$;	$g(n) = 2^{2^n}$
g.	$f(n) = 2^n$;	$g(n) = n!$
h.	$f(n) = (n+1)!$;	$g(n) = n!$

4.) big O is the upper bound; omega is lower

a.)O(g(n)) ;

b.) Ω(g(n)) ; N_0=1

c.) Θ(g(n); N_0=1

d.) Ω(g(n)) ; for all N

e.) O(g(n)) ;for all N

f.) O(g(n)) ; for all N

g.) O(g(n)) ; N_0=4

h.) Ω(g(n)) ; for all N