Exercise 3-5:

a. Answer :

Consider the function $f(n) = \sin n + 3$

$\because$ *$f(n)$ can fluctuate between a certain range*

$\therefore$ *We may pick infinitely many points, but cannot guarantee an infinitely long interval,*

such that $f(n) \leq g(n)$ *or* $f(n) \geq g(n)$

$\therefore$ *It holds for* $\overset{\infty}{\Omega}$*, but not for* Ω

b. Answer :

It has been proved that $\overset{\infty}{\Omega}$ *can tolerate fluctuation.*

Thus it means more instability, such evaluation method surely is not as reasonable.