

Math 325. Quiz #5

(1) State the definition of a **decreasing** sequence.

(2) *True or false*, and *justify* with a short proof or example:

If $\{a_n\}_{n=1}^{\infty}$ is a divergent sequence, then $\{5a_n\}_{n=1}^{\infty}$ is also divergent.

(3) *True or false*, and *justify* with a short proof or example:

If $\{a_n^2\}_{n=1}^{\infty}$ converges to 1 then $\{a_n\}_{n=1}^{\infty}$ converges to 1 ($= \sqrt{1}$).