Math 131A Winter 2018: Homework 3, Due 2/2

1. Show that if $s_{n} \rightarrow s$, then $s_{n}^{3} \rightarrow s^{3}$. Is the converse true?

2-6. 9.4, 9.6, 9.10, 9.12, 9.14.
7. Suppose that the sequence $\left(s_{n}\right)$ is decreasing, and suppose the set $S=$ $\left\{s_{1}, s_{2}, \ldots\right\}$ has a lower bound. With these assumptions, show that $\left(s_{n}\right)$ converges.

