Problem Wk.5.3.5: The mean of a list of numbers

The *mean* (or average) of a list of *n* numbers is the sum of the numbers divided by *n*. For example, the mean of 2, 7, 3, 9, and 13 is \((2+7+3+9+13)/5\), or 6.8. Write a procedure \texttt{mean} that takes as input a list of numbers (of any length) and returns the mean. It should have type \texttt{list(num)} -> \texttt{float}.

One thing to watch out for is an empty list as input. It's not clear that any numeric answer makes sense here. You should just return \texttt{None}.

You can implement this as an extremely short procedure if you use the Python built-in procedures \texttt{sum}, which returns the sum of the elements of a list, and \texttt{len}, which returns the length of a list.

If your procedure says that the mean of 1 and 2 is 1, rather than 1.5, then you've been tricked by Python's division (/) operation. Be careful.