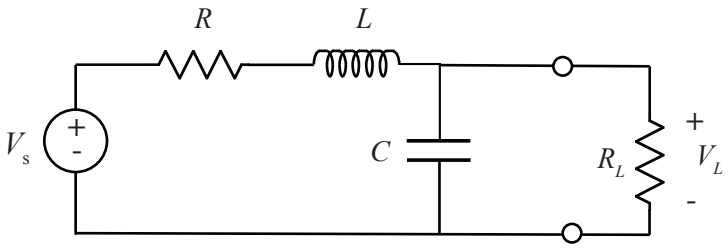
S.P. #14-D

The circuit below is operating as a resonant voltage multiplier.



The source has values: Vs = 1 [V] , R = 1 Ω , L = 15.9 uH , C = 1.59 nF. and the operating frequency is 1 MHz.

Find the load voltage $_{VL}$ for a) $R_L \rightarrow \infty$, b) R_L = 10 kΩ , c) R_L = 1 kΩ .

Hint: It would make it a lot easier to note that for all values of R_l, the parallel combination of the load resistor and the capacitor has a high Q, which means that the parallel combination can be considered as roughly the same C, in series with a much smaller resistor.