PHYS 301 EM Spectrum Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 

Speed of an electromagnetic wave is also given by: c = λf.



1. Calculate the speed of light to 9 significant figures, using the fundamental constants.

2. A certain helium–neon laser emits red light in a narrow band of wavelengths centered at 632.8 nm and with a “wavelength width” (such as on the scale of Fig. [33-1](http://edugen.wiley.com/edugen/courses/crs4957/halliday9118/halliday9088c33/halliday9118/halliday9088c33/halliday9088c33xlinks.xform?id=halliday9088c33-fig-0001)) of 0.0100 nm. What is the corresponding “frequency width” for the emission?