1. Rank these different waves in order of increasing wavelength: X-rays, gamma-rays, violet light, green light, infrared, microwaves, radio waves.

2. Calculate the frequency of light with a wavelength of 512 nm. Remember that a nm means $1 \times 10^{-9}$ meters and the speed of light is $3 \times 10^8$ meters per second.

3. Look at the black body SPD shown below. Each curve represents the SPD for a different temperature – designated on the curve. Between the two vertical lines is the visible spectrum. Explain why there are no green stars. Discuss the coloration of an object as the temperature of the object is increased.
4. Consider the following questions:  
A) you have a beam of light from the sun hitting a white screen, what color will the spot of light on the screen appear?  
B) You place a piece of yellow glass in the beam of light. What color does the spot appear? Explain.  
C) You replace the yellow glass with a piece of blue glass. What color does the spot appear now? Explain.  
D) You now overlap the blue glass and the yellow glass. You observe a green spot on the white screen. What conclusions can you draw from this? Explain.

5. You have two spotlights. One has a red filter on it and the second has a green filter. You overlap the two spots of light. What color do you see in the overlapping region? Explain.