PreAP: Due Tues., Mar 21 (Assigned Fri., Mar 10)
Reg. Due Wed., Mar 22 (Assigned Mon., Mar 20)

Light 2

Page #	Equation
532	$\frac{1}{p} + \frac{1}{q} = \frac{1}{f}$
533	$M = \frac{h'}{h} = -\frac{q}{p}$

p	cm or m	distance to object (+ if in front [real object])
q	cm or m	distance to image (+ if in front [real image])
f	cm or m	focal length
h	cm or m	size of object (+ if upright [above axis])
h'	cm or m	size of image (+ if upright [above axis])
M	No units	magnification

1. What travels faster: radio waves or visible light?

2. You know the speed of light (see the notes). The bottom of the FM radio band has a frequency of 88 MHz. Find its wavelength. (Remember that Mega = x 10^6)

3. What is the frequency of yellow-green light that has a 560 nm wavelength?

4. If you double the distance from the light source the amount of light decrease by what amount?

5. A line perpendicular to a surface is called the n_____. (Remember from friction.)
6. If a light source hits a mirror at an angle of 60 degrees, at what angle does it r_____ off the mirror?

Make sure you put the above equations and variables on your sheets.
(Will help a lot to assign your variables in the area on the right of the question as you figure them out.)

7. A 6 cm tall pencil is 4 cm in front of a mirror that has a 2 cm focal length.
   A. What variable is 6 cm?
   B. What variable is 4 cm?
   C. What variable is 2 cm?
   D. Use one of your equations to find the distance to the image.

   E. Use one of your equations now to find the magnification of the mirror.

   F. Now use one of your equations to find the height of the image.

   G. Is your image real or imaginary?
   H. Is your object real or imaginary?

8. When using the RGB color model,
   A.. What do the letters RGB stand for?
   B. Since RGB are the ONLY colors you have available to you, what would you use to make red?
   C. What color is always the background for RGB?
   D. How would you make white?
   E. How would you make yellow?
   F. How would you make black?
   G. How would you make magenta?

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9. If you are using the CMYK model for making color:
   A. What do the letters CMYK stand for?
   B. What color is the background?
   C. How would you make Red?
   D. How would you make Cyan?
   E. What are the two ways to make black?
   F. What is the most economical way to make black?
   G. How would you make Blue?