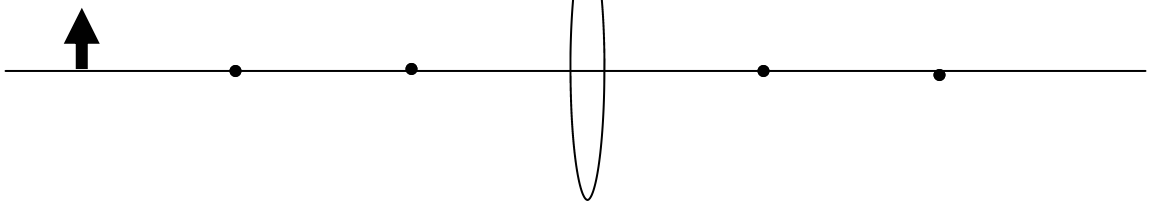
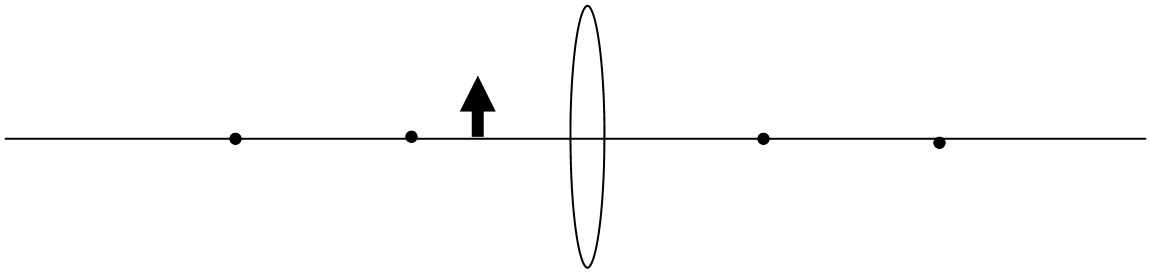
In Class Light Review 1

Lens



Mirror



Is light a wave or a particle. Give at least 3 proofs.

Where does light come from?

Why did the phosphorous pad (glow-in-the-dark) glow slime green regardless of the light that we shined on it?

A convex lens is convergent/divergent and magnifies/reduces.
A concave lens is convergent/divergent and magnifies/reduces.
A convex mirror is convergent/divergent and magnifies/reduces.
A concave mirror is convergent/divergent and magnifies/reduces.

f is + or –?	The Real (+) Side is Left or Right?
_____ Convex Mirror	_____ Convex Mirror
_____ Concave Lens	_____ Concave Lens
_____ Convex Lens	_____ Convex Lens
_____ Concave Mirror	_____ Concave Mirror

Find the wavelength of radio waves of 6.2 MHz.

Calculate the speed of 1,200 m microwaves.

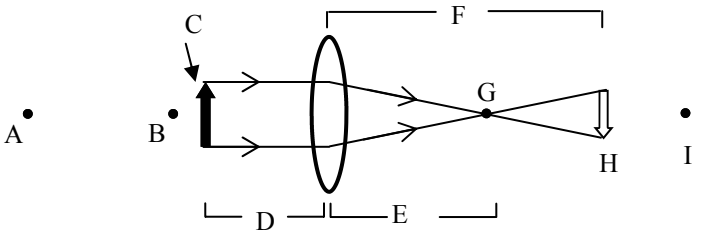
Which has more energy: Microwaves or X-rays?
Which has a shorter wavelength: gamma rays or radio waves?
Which has a faster speed: green light or radio waves?
Which has a higher frequency: gamma rays or visible light?
Which has less energy: red light or blue light?

If it takes the sun's light 8 minutes to reach the earth, calculate the time it would take a satellite to send its radio signals back to NASA if it is the same distance from the earth as the sun.

In Class Review1

Are the following + or –?

____ q if image is inverted.	____ q if the image is on the left side of a lens
____ h	____ h' if the image is on the right side of a lens.
____ h' if the image is upright	____ q if the image is on the left side of a mirror.
____ M if the image is upright	____ M if the image is real.
____ h' if the image is on the right side of a mirror	
____ M if the image is virtual	



A = _____
B = _____
C = _____
D = _____
E = _____
F = _____
G = _____
H = _____
I = _____

A 4 cm object is in front of a convex mirror with a 3 cm focal length. The image is found to be 2 cm to the right of the mirror.
A) Find where the object is.

B) Find the height of the image.

C) Is the image real or virtual?

(Honors) 450 nm light is put through piece of glass. Dots appear on the wall. The angle to the second brightest dot is 22°. Find the distance between the slits of the glass.

Make the following additive colors using RGB.

Cyan _____ White _____ Yellow _____

Red _____ Magenta _____ Black _____

Make the following subtractive colors using CMYK.

Blue _____ White _____ Green _____

Red _____ Magenta _____ Black _____

What color does Magenta absorb?

What color does Cyan absorb?

Why does light refract?

How can you decide which way light will refract?

Find the speed of light in a diamond.

Find the critical angle from a diamond to air.

Two new substances: A (n = 1.65); B (n = 2.44).
In which substance will light travel slower?
In which substance will light refract more from air?

If light hits water from air at an angle of 15° from the water, what is the angle it will be going in the water?

The object is placed between the focal length and center of curvature of a convex lens.
A) where will the image be?
B) will it be real or virtual?
C) will it be magnified or reduced?