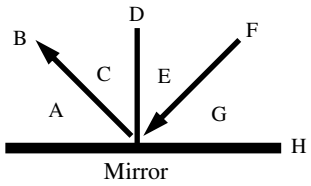
A-day: Due Thurs., Mar 27 (Assigned Tues., Mar 25)
B-day: Due Fri., Mar 28 (Assigned Wed., Mar 26)

2008 Light 8

1. A satellite is surveying an asteroid. It takes its radio signals 3 minutes to reach the earth.
   A. How fast are the radio waves traveling?
   B. How far away is the satellite?



2. Use the diagram at the right to answer the following.
   A. _____ Angle of incidence.
   B. _____ Angle of reflection.
   C. _____ The normal.
   D. How do the angle of incidence and the angle of reflection compare?

3. Convergent or Divergent: _____ Concave mirror; _____ Convex lens; _____ Convex mirror; _____ Concave lens?

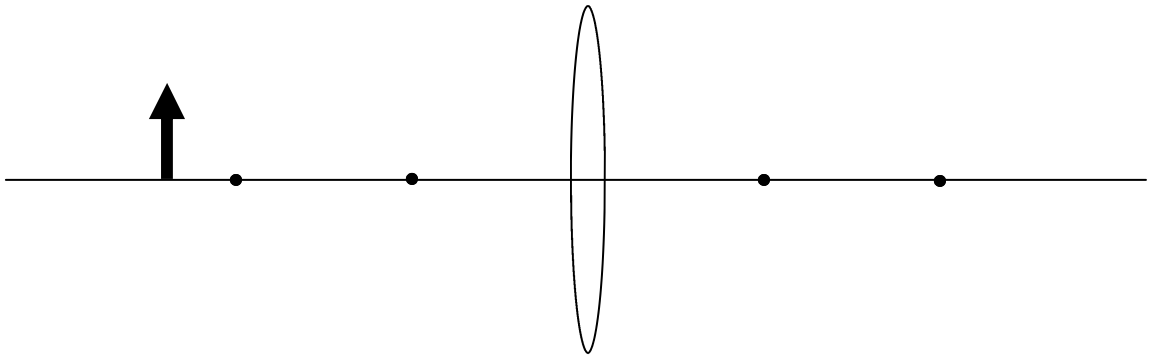
4. Find the wavelength of 620 nm light.

5. Which devices ALWAYS reduce: divergent or convergent?

6. Positive or Negative?
   A. ____ q on the right side of a lens?
   B. ____ The distance to the object?
   C. ____ The focal length of a concave mirror?
   D. ____ q if p is inside the focal length?
   E. ____ The focal length of a convex lens?
   F. ____ q if on the left side of a mirror?
   G. ____ q for a convex mirror?
   H. ____ q on the left of a mirror.
   I. ____ The focal length of a convex mirror?
   J. ____ Image distance from a concave lens?
   K. ____ q from a convex mirror?
   L. ____ h' if the image is on the left side of a lens?
   M. ____ The focal length of a concave lens?
   N. ____ q if on the right side of a mirror?
   O. ____ M if the image is projected.
   P. ____ h' if the image is inverted.
   Q. ____ q if you can project the image on a screen.

7. A lamp is 2.5 ft in front of a flat mirror. How far away from the lamp is the image of the lamp?

8. A. Find the image with a ray diagram.



   B. Is the above image real or virtual?
   C. Is the image magnified or reduced?

9. Find the critical angle of light passing from a diamond to ice.

10. A. What color does Magenta paint reflect?
    B. So what color does Magenta paint reflect?

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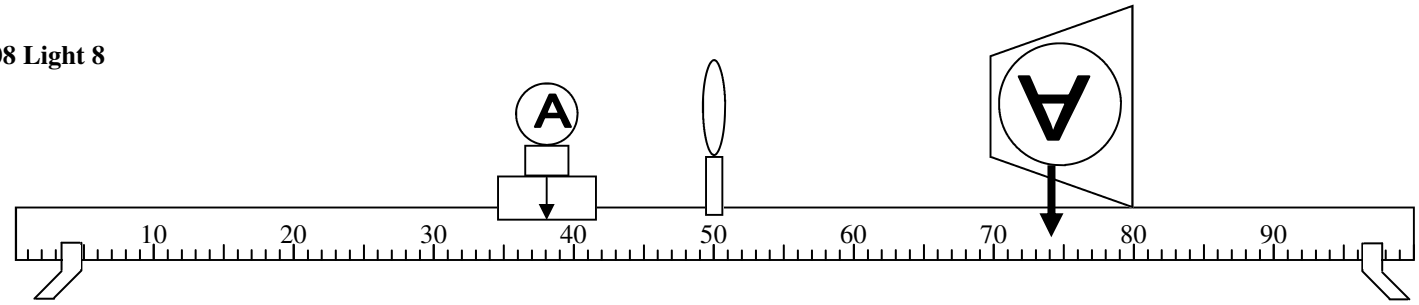
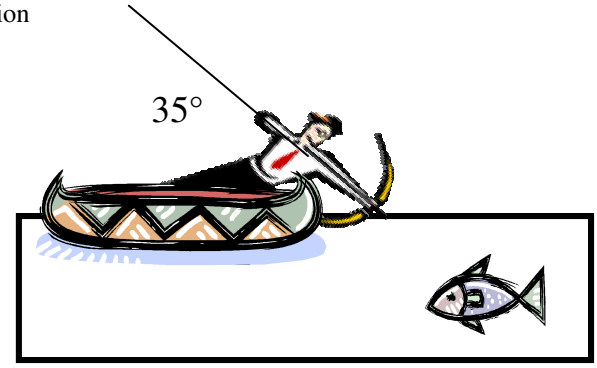


11. A. Is the above image inside the f, between f and C, or outside C?
    B. How do you know?
    C. Find the focal length of the above lens.

    D. Just from the diagram above, how could you have told what kind of lens it was?

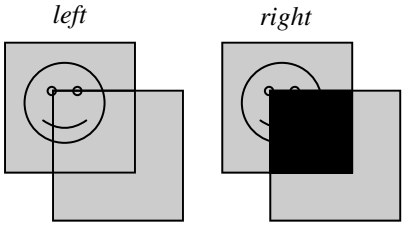
12. Once again the well-dressed man is trying to take out his aggression from work on a poor, helpless fish (*sniff*!). Pointing at where the fish seems to be, he takes aim at 35° to the horizontal.
    A) Will there be fishsticks tonight?
    B) Draw where the fish is really.
    C) At what angle is the fish under the water?



13. Two substances: A (n = 1.56); B (n = 2.3).
    A. Which one is denser?
    B. In which one will light travel faster?
    C. In which case would there be no critical angle (from which one to which one)?

    D. In which one will light refract more?

14. Two polarizers are placed over a happy face.
    In which situation is one of the polarizers turned 90°?



Be sure to also review the TAKS information over DNA and the Characteristics of Life.