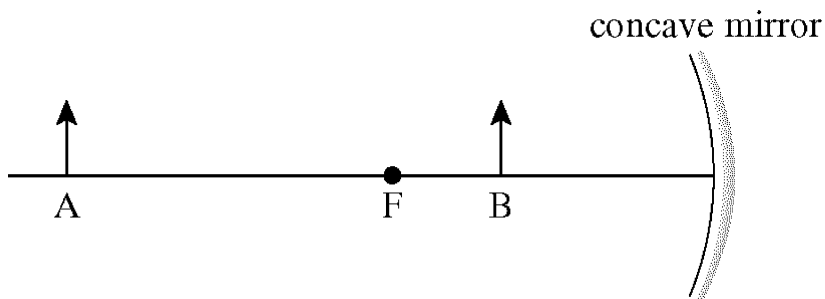


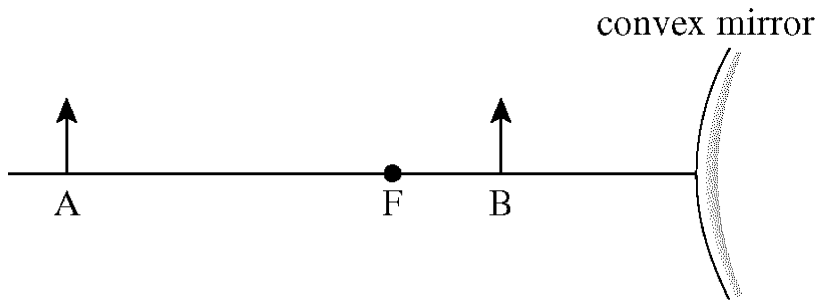
Ch 14 Retest**Multiple Choice**

Identify the letter of the choice that best completes the statement or answers the question.

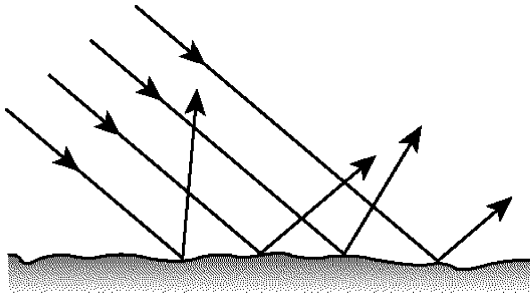
- _____ 1. In a vacuum, electromagnetic radiation of short wavelengths
- travels as fast as radiation of long wavelengths.
 - travels slower than radiation of long wavelengths.
 - travels faster than radiation of long wavelengths.
 - can travel both faster and slower than radiation of long wavelengths.
- _____ 2. When red light is compared with violet light,
- both have the same frequency.
 - both have the same wavelength.
 - both travel at the same speed.
 - red light travels faster than violet light.
- _____ 3. Snow reflects almost all of the light incident upon it. However, a single beam of light is not reflected in the form of parallel rays. This is an example of _____ reflection off of a _____ surface.
- regular; rough
 - regular; specular
 - diffuse; specular
 - diffuse; rough
- _____ 4. If a light ray strikes a flat mirror at an angle of 27° from the normal, the reflected ray will be
- 27° from the mirror's surface.
 - 27° from the normal.
 - 90° from the mirror's surface.
 - 63° from the normal.
- _____ 5. Which of the following best describes the image produced by a flat mirror?
- virtual, inverted, and magnification greater than one
 - real, inverted, and magnification less than one
 - virtual, upright, and magnification equal to one
 - real, upright, and magnification equal to one
- _____ 6. When the reflection of an object is seen in a flat mirror, the distance from the mirror to the image depends on
- the wavelength of light used for viewing.
 - the distance from the object to the mirror.
 - the distance of both the observer and the object to the mirror.
 - the size of the object.



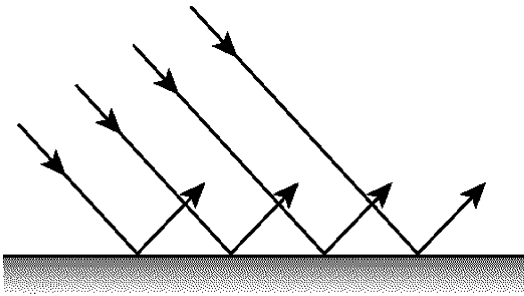
- _____ 7. In the diagram above, the image of object *B* would be
- virtual, enlarged, and inverted.
 - real, enlarged, and upright.
 - virtual, reduced, and upright.
 - virtual, enlarged, and upright.



- ____ 8. In the diagram above, the image of object *B* would be
- | | |
|------------------------------------|------------------------------------|
| a. real, reduced, and upright. | c. virtual, reduced, and inverted. |
| b. virtual, enlarged, and upright. | d. virtual, reduced, and upright. |
- ____ 9. When the reflection of an object is seen in a flat mirror, the image is
- | | |
|-----------------------|--------------------------|
| a. real and upright. | c. virtual and upright. |
| b. real and inverted. | d. virtual and inverted. |
- ____ 10. When red light and green light shine on the same place on a piece of white paper, the spot appears to be
- | | |
|------------|-----------|
| a. yellow. | c. white. |
| b. brown. | d. black. |
- ____ 11. Which of the following is NOT a primary subtractive color?
- | | |
|-----------|------------|
| a. yellow | c. magenta |
| b. cyan | d. blue |
- ____ 12. When the transmission axis is perpendicular to the plane of polarization for light,
- | | |
|--------------------------------------|--|
| a. all the light passes through. | c. little of the light passes through. |
| b. most of the light passes through. | d. no light passes through. |

Short Answer

13. What type of reflection is illustrated in the figure above?



14. What type of reflection is illustrated in the figure above?

Problem

15. A certain radio wave has a frequency of 2.0×10^6 Hz. What is its wavelength?
16. An object that is 2.00 cm high is placed 10.0 cm in front of a concave mirror with a radius of curvature of 40.0 cm. Draw a ray diagram to find the position and magnification of the image.
17. A candle 4.7 cm tall is 20.0 cm from a convex mirror that has a focal length of 6.0 cm. Draw a ray diagram to determine the position and magnification of the image.