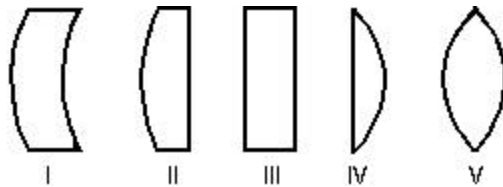


1. When you stand in front of a plane mirror, your image is:
  - A) real, erect, and smaller than you
  - B) real, erect, and the same size as you
  - C) virtual, erect, and smaller than you
  - D) virtual, erect, and the same size as you
  - E) real, inverted, and the same size as you
  
2. A ball is held 50 cm in front of a plane mirror. The distance between the ball and its image is:
  - A) 100 cm
  - B) 150 cm
  - C) 200 cm
  - D) zero
  - E) 50 cm
  
3. As an object is moved from a distant location toward the center of curvature of a concave mirror its image:
  - A) remains virtual and becomes smaller
  - B) remains virtual and becomes larger
  - C) remains real and becomes smaller
  - D) remains real and becomes larger
  - E) changes from real to virtual
  
4. A convex spherical refracting surface separates a medium with index of refraction 2 from air. The image of an object outside the surface is real:
  - A) always
  - B) never
  - C) only if it is close to the surface
  - D) only if it is far from the surface
  - E) only if the radius of curvature is small
  
5. An object is 30 cm in front of a converging lens of focal length 10 cm. The image is:
  - A) real and larger than the object
  - B) real and the same size than the object
  - C) real and smaller than the object
  - D) virtual and the same size than the object
  - E) virtual and smaller than the object

6. A camera with a lens of focal length 6.0 cm takes a picture of a 1.4-m man standing 11 m away. The height of the image is about:

- A) 0.39 cm
- B) 0.77 cm
- C) 1.5 cm
- D) 3.0 cm
- E) 6.0 cm

7. Which of the following five glass lenses is a diverging lens?



- A) I
- B) II
- C) III
- D) IV
- E) V

8. A converging lens of focal length 20 cm is placed in contact with a diverging lens of focal length 30 cm. The focal length of this combination is:

- A) +60 cm
- B) +25 cm
- C) +12 cm
- D) -10 cm
- E) +10 cm

9. Where must an object be placed in front of a converging lens in order to obtain a virtual image?

- A) At the focal point
- B) At twice the focal length
- C) Greater than the focal length
- D) Between the focal point and the lens
- E) Between the focal length and twice the focal length

Answers:

- 1.D
- 2.A
- 3.D
- 4.D
- 5.C
- 6.B
- 7.A
- 8.A
- 9.D