Standardized Test Prep

MULTIPLE CHOICE

1. Which equation is correct for calculating the focal point of a spherical mirror?

A. $1/f = 1/p - 1/q$
B. $1/f = 1/p + 1/q$
C. $1/p = 1/f + 1/q$
D. $1/q = 1/f + 1/p$

2. Which of the following statements is true about the speeds of gamma rays and radio waves in a vacuum?

F. Gamma rays travel faster than radio waves.
G. Radio rays travel faster than gamma rays.
H. Gamma rays and radio waves travel at the same speed in a vacuum.
J. The speed of gamma rays and radio waves in a vacuum depends on their frequencies.

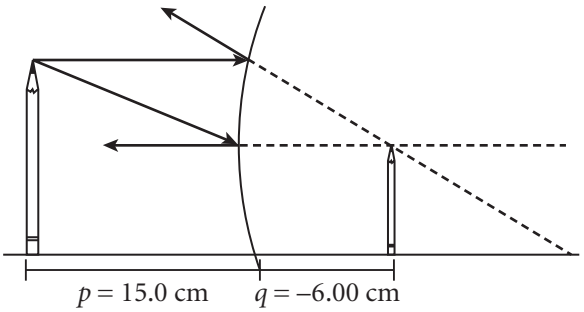
3. Which of the following correctly states the law of reflection?

A. The angle between an incident ray of light and the normal to the mirror's surface equals the angle between the mirror's surface and the reflected light ray.
B. The angle between an incident ray of light and the mirror's surface equals the angle between the normal to the mirror's surface and the reflected light ray.
C. The angle between an incident ray of light and the normal to the mirror's surface equals the angle between the normal and the reflected light ray.
D. The angle between an incident ray of light and the normal to the mirror's surface is complementary to the angle between the normal and the reflected light ray.

4. Which of the following processes does not linearly polarize light?

F. scattering
G. transmission
H. refraction
J. reflection

Use the ray diagram below to answer questions 5–7.



5. Which kind of mirror is shown in the ray diagram?

A. flat
B. convex
C. concave
D. Not enough information is available to draw a conclusion.

6. What is true of the image formed by the mirror?

F. virtual, upright, and diminished
G. real, inverted, and diminished
H. virtual, upright, and enlarged
J. real, inverted, and enlarged

7. What is the focal length of the mirror?

A. –10.0 cm
B. –4.30 cm
C. 4.30 cm
D. 10.0 cm

8. Which combination of primary additive colors will produce magenta-colored light?

F. green and blue
G. red and blue
H. green and red
J. cyan and yellow