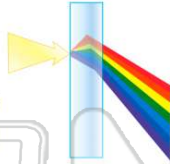




Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

1 Which phenomena cause **chromatic aberration** to occur when **polychromatic light** passes through a lens?

- A diffraction and refraction
- B diffraction and reflection
- C dispersion and refraction
- D dispersion and reflection



2 A student stands 2.0 meters in front of a vertical **plane mirror**. As the student **walks toward the mirror**, the **image**



- A decreases in size and remains virtual
- B decreases in size and remains real
- C remains the same size and remains virtual
- D remains the same size and remains real

3 An incident light ray travels parallel to the principal axis of a **concave spherical mirror**. After **reflecting from the mirror**, the **light ray will travel**

- A through the mirror's principal focus
- B through the mirror's center of curvature

4 The **focal length** of a concave spherical mirror is **0.060 meter**. What is the **radius of curvature** of the mirror?

- A 0.060 m
- B 0.12 m
- C 8.3 m

5

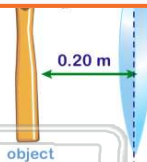


## PREVIEW

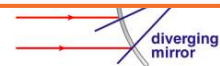
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7

- A 0.033 m
- B 0.050 m
- C 0.16 m
- D 0.20 m



- A real and erect
- C virtual and inverted
- D virtual and erect



9

**Spherical aberration** is a **defect** associated with

- A spherical mirrors, only
- B plane mirrors, only
- C both spherical mirrors and lenses
- D both plane mirrors and lenses

10

Compared to a **photon** of red light, a **photon** of blue light has a

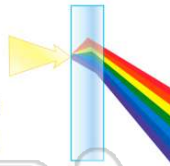
- A greater energy
- B longer wavelength
- C smaller momentum
- D lower frequency



## ANSWER KEY

Which phenomena cause **chromatic aberration** to occur when **polychromatic light** passes through a lens?

- A diffraction and refraction
- B diffraction and reflection
- C dispersion and refraction
- D dispersion and reflection



(C)

A student stands 2.0 meters in front of a vertical **plane mirror**. As the student **walks toward** the mirror, the **image**

- A decreases in size and remains virtual
- B decreases in size and remains real
- C remains the same size and remains virtual
- D remains the same size and remains real



(C)

An incident light ray travels parallel to the principal axis of a **concave spherical mirror**. After **reflecting** from the mirror, the light ray will travel

- A through the mirror's principal focus
- B through the mirror's center of curvature
- C parallel to the mirror's principal axis
- D normal to the mirror's principal axis

(a)

The **focal length** of a concave spherical mirror is **0.060 meter**. What is the **radius of curvature** of the mirror?

- A 0.060 m
- B 0.12 m
- C 8.3 m
- D 17 m

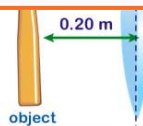
(b)



## PREVIEW

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- B 0.050 m
- C 0.16 m
- D 0.20 m



- D virtual and erect



**Spherical aberration** is a **defect** associated with

- A spherical mirrors, only
- B plane mirrors, only
- C both spherical mirrors and lenses
- D both plane mirrors and lenses

(C)

Compared to a **photon** of red light, a **photon** of blue light has a

- A greater energy
- B longer wavelength
- C smaller momentum
- D lower frequency

(a)