

Escuela de Sophia of Caloocan Inc.
General Physics 2
Geometric Optics (Mirror)
(Week 3)

Name:

Section/Block:

I. Read each question carefully. Choose the correct answer from the given choices below.

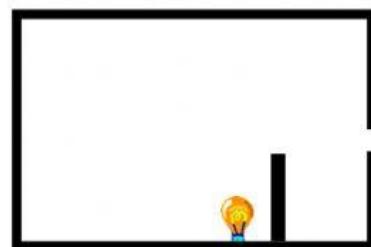
1. You are in a closed room that has no windows and only one source of light, an overhead incandescent light bulb. Around the room, you notice various objects: a yellow banana, a red apple, and a green cucumber. Which of the following best explains what influences the color and brightness of the banana?

- A. Color is a property of each object, independent of any light shining on it. The brightness is only dependent on the brightness of the light bulb.
- B. Some of the white light is absorbed by the banana, but the portion of the spectrum that is yellow is reflected from the banana. The brightness also depends on the roughness of the surface of the banana.
- C. Color is a property of each object, independent of any light shining on it. The brightness is only dependent on the roughness of the surface of the banana.
- D. Some of the white light is absorbed by the banana, but the portion of the spectrum that is yellow is reflected from the banana. The brightness is only dependent on the brightness of the light bulb.
- E. The banana only emits light that has wavelengths in the yellow light portion of the visible light spectrum. The brightness is only dependent on the brightness of the light bulb.

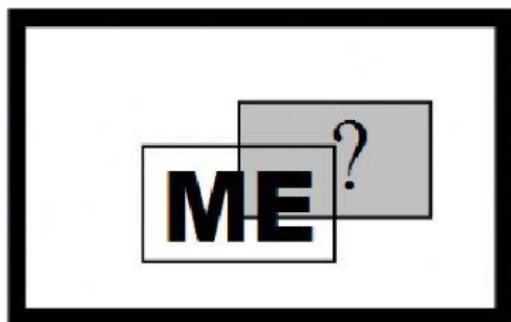
2. You are standing on the right side of a closed opaque box. There is a hole through which you can look inside. The drawing shows a small light bulb inside that is on. There is also a wall inside the box as shown. All of the surfaces of the box are rough surfaces that are painted black. As you look through the hole, what can you see?

- A. A bright beam of light from the bulb
- B. The light bulb
- C. The walls will appear to be the same color as the light bulb
- D. The black walls of the box

3. The word "ME" is printed in bold letters on a transparent plastic sheet. It is then held up in front of a plane mirror as shown. How will the word appear in the mirror when you look at its image?



- A.
- B.
- C.
- D.



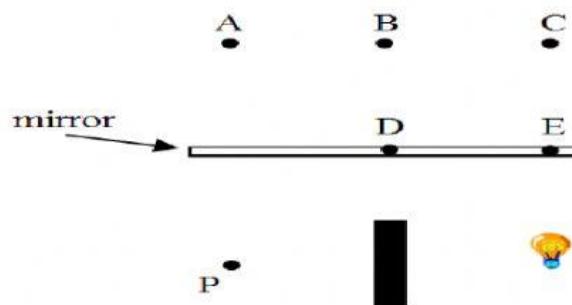
4. You are standing in front of a mirror at the point P shown. There is a light bulb behind a screen that you cannot see directly. As you look in the mirror, where does the image of the light bulb appear?

A. Point A

B. Point B

C. Point C

D. Point D



5. A supermodel walks directly toward a plane mirror at a speed of 0.15 m/s. Determine the speed of the image relative to her.

A. 0.15 m/s

B. 0.30 m/s

C. 0.45 m/s

D. 0.60 m/s

E. 0.90 m/s

6. Which one of the following statements concerning a convex mirror is true?

A. Such mirrors are always a portion of a large sphere.

B. The image formed by the mirror is sometimes a real image.

C. The image will be larger than one produced by a plane mirror in its place.

D. The image will be closer to the mirror than one produced by a plane mirror in its place.

E. The image will always be inverted relative to the object.

7. Imagine you are sitting in the back row of the classroom. Your instructor is standing in the front of the room with a large convex spherical mirror. What do you see in the mirror as your instructor walks from the front of the room to your location; all the while the mirror is facing you?

A. I see my image right side up. It gets larger as the mirror approaches.

B. I see my image right side up. It gets smaller as the mirror approaches.

C. I see my image initially inverted and then right side up. It gets larger as the mirror approaches.

D. I see my image initially inverted and then right side up. It gets smaller as the mirror approaches.

E. I see my image initially right side up and then inverted. It gets larger as the mirror approaches.

8. Imagine you are sitting in the back row of the classroom. Your instructor is standing in the front of the room with a large concave spherical mirror. What do you see in the mirror as your instructor walks from the front of the room to your location; all the while the mirror is facing you?

- A. I see my image right side up. It gets larger as the mirror approaches.
- B. I see my image right side up. It gets smaller as the mirror approaches.
- C. I see my image initially inverted and then right side up. It gets larger as the mirror approaches.
- D. I see my image initially inverted and then right side up. It gets smaller as the mirror approaches.
- E. I see my image initially right side up and then inverted. It gets larger as the mirror approaches.

9. An object is placed at the center of curvature of a concave spherical mirror. Which of the following descriptions best describes the image produced in this situation?

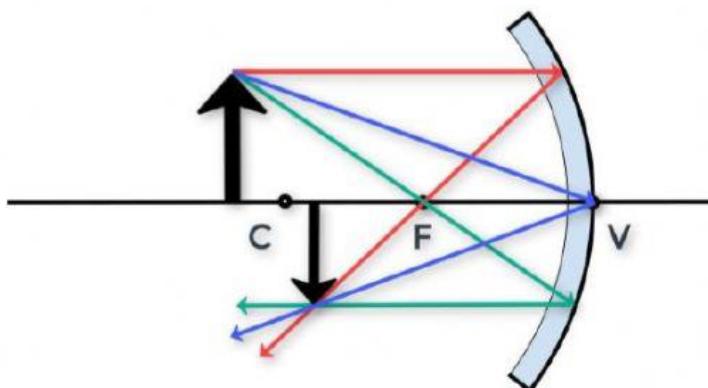
- A. upright, larger, real
- B. inverted, same size, real
- C. upright, larger, virtual
- D. inverted, smaller, real
- E. inverted, larger, virtual

10. An object is placed to the right of a spherical mirror that is concave towards the object. The object is at the focal point of the mirror. Which one of the following is the best description of the image?

- A. The image is to the left of the mirror and it is larger than the object.
- B. The image is to the left of the mirror and it is smaller than the object.
- C. The image is to the right of the mirror and it is larger than the object.
- D. The image is to the right of the mirror and it is smaller than the object.
- E. No image is formed in this situation.

II. Give the characteristics of the image formed by concave and convex mirrors below.

1.



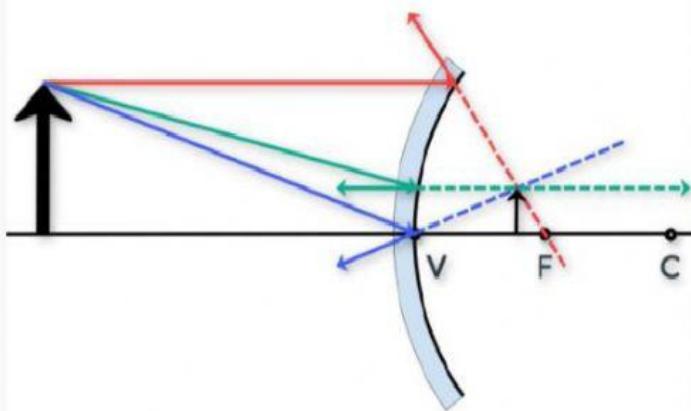
L =

O =

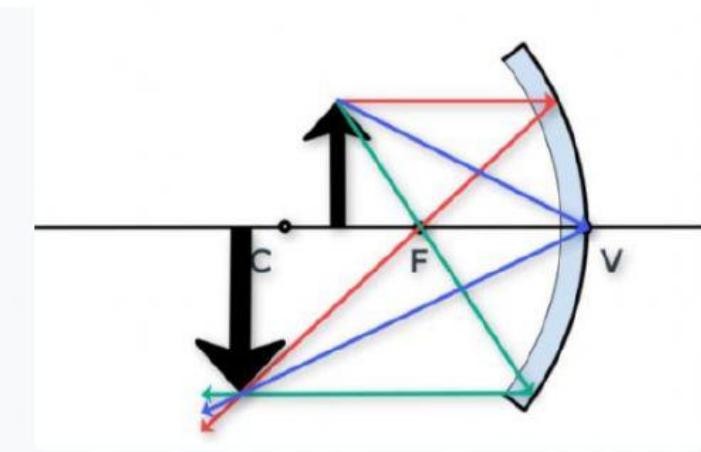
S =

T =

2.

**L** =**O** =**S** =**T** =

3.

**L** =**O** =**S** =**T** =