Name: _____

Physics - Optics Review Package

1) A pencil is held 30 cm from the front of a pinhole camera. The length of the camera is 20 cm.

Which of the following describes the image of the pencil seen inside the pinhole camera?

A) Inverted and larger than the pencil

B) Inverted and smaller than the pencil

C) Upright and larger than the pencil

D) Upright and smaller than the pencil

2) A pinhole camera was set up to view a 5.0 cm matchstick. The distance to the matchstick was twice the depth of the camera.

What was the height of the image on the screen?

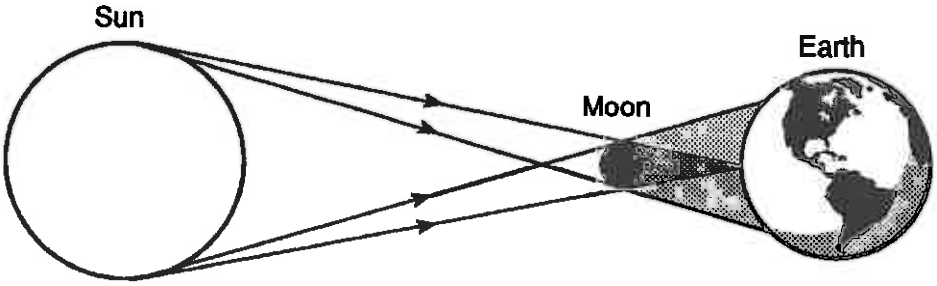
A) 50.0 cm

B) 10.0 cm

C) 5.0 cm

D) 2.5 cm

3) The following diagram illustrates a solar eclipse.



Which property of light accounts for the phenomenon illustrated above?

A) Light forms angles of incidence that are equal to the angles of reflection.

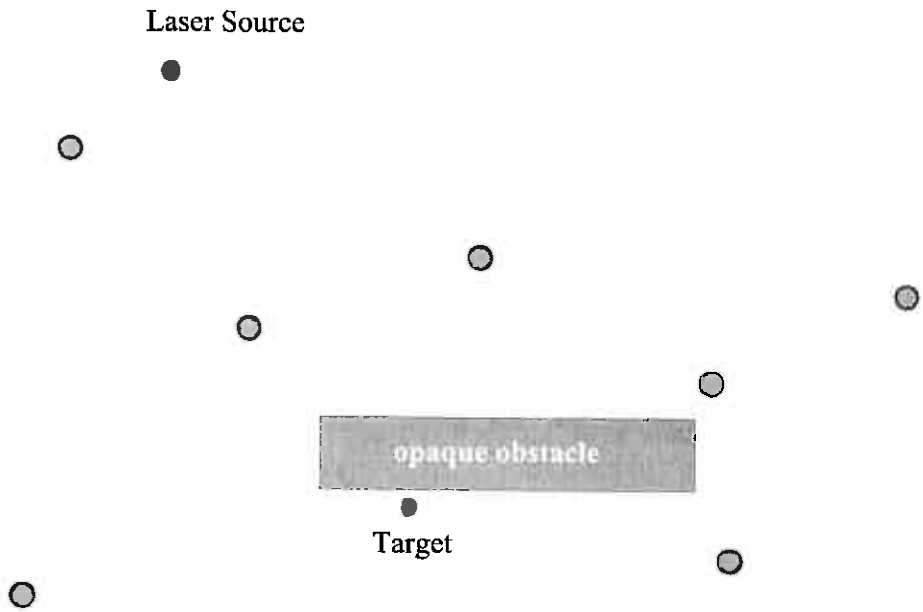
B) Light travels in a straight line.

C) Light is deflected when it passes by the edge of a solid surface.

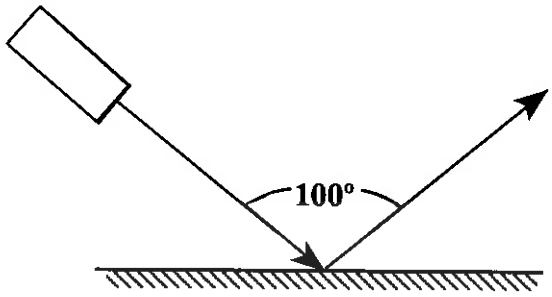
D) Light is deflected when it travels through empty space.

4) You have to use a laser to hit the target shown in the diagram below. Several objects are placed throughout the area between the laser and the target. A plane mirror is attached to one of the objects.

Draw the path of a ray of light that would strike the target. The mirror must be accurately placed and the angle of reflection measured.



5) A light ray from a ray box strikes a smooth reflective surface, as illustrated below.



What is the angle of incidence of this light ray?

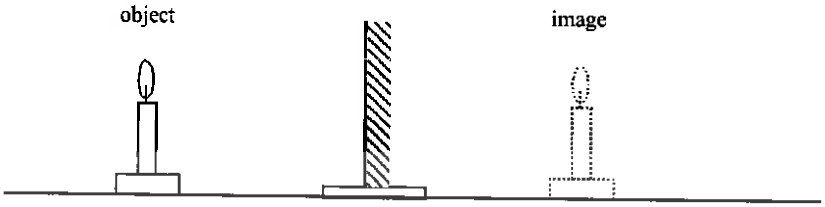
A) 40°

B) 50°

C) 80°

D) 100°

6) A child can see the image of a birthday candle placed 10 cm from a plane mirror as shown below.



If the mirror is moved back 2 cm from the candle, how far will the image move from its initial position?

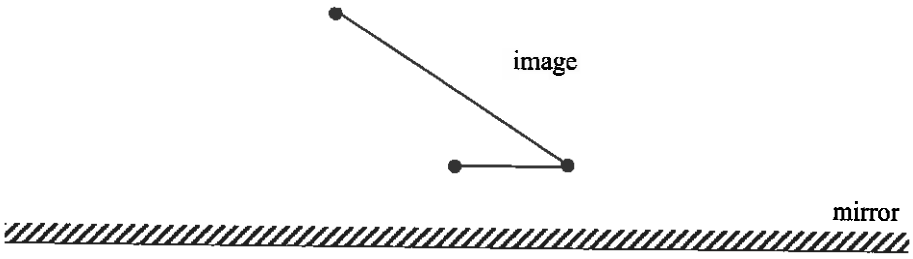
A) 2 cm

B) 4 cm

C) 12 cm

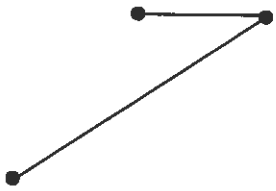
D) 24 cm

7) Below is a virtual image created in a plane mirror.

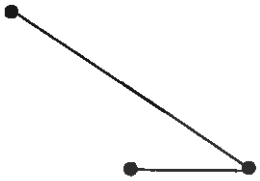


Which of the following objects would create the virtual image above?

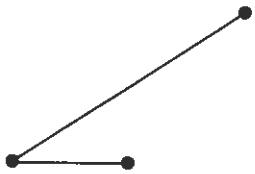
A)



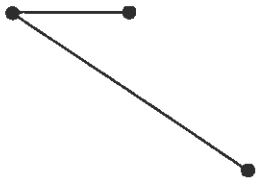
C)



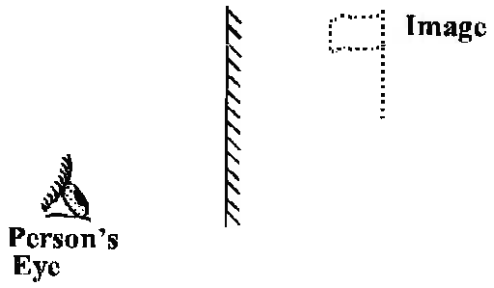
B)



D)

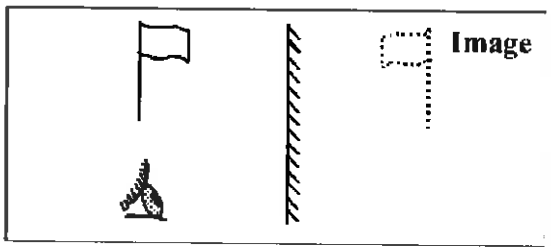


8) A person sees the image of a flag formed by a plane mirror.

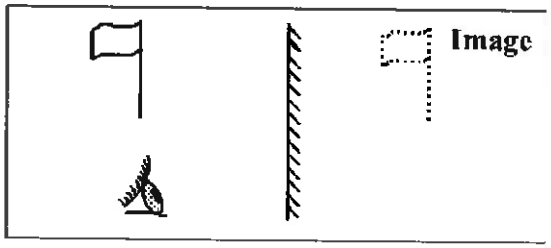


In which one of the following diagrams is the flag correctly positioned?

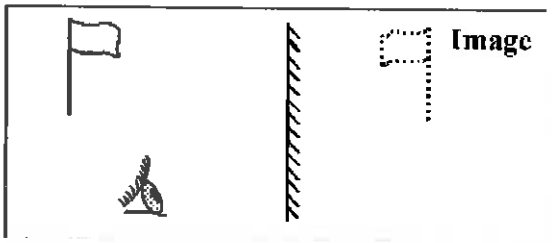
A)



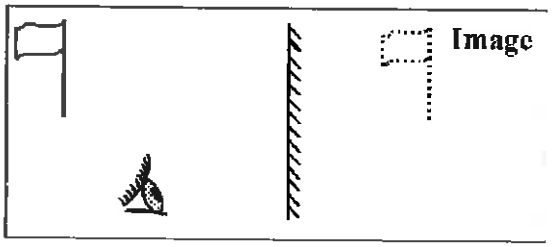
B)



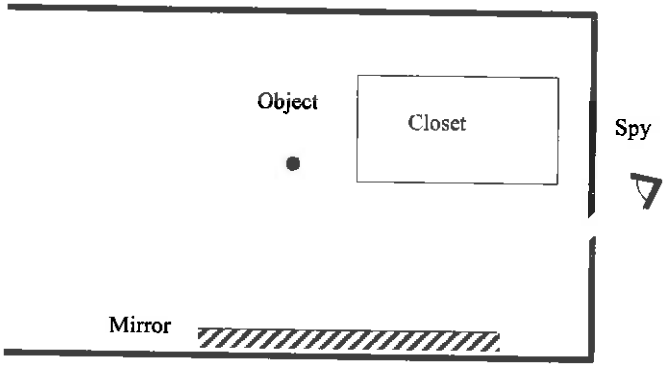
C)



D)



9) A spy thinks that the object he is looking for is in a room. He is able to see into the room by using a small opening in the wall (see diagram below):



Using the diagram in your answer booklet, show how it is possible for the spy to see the object.

Key

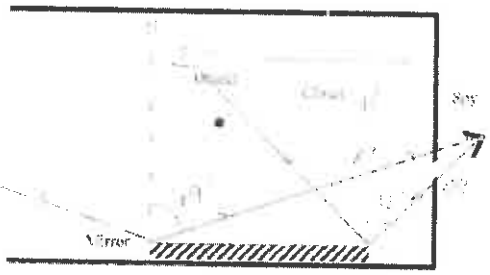
[redacted]

[redacted]

(1) (B) (2) (D) (3) (B) (4)  (5) (B) (6) (B)

(7) (A) (8) (A)

(9) A spy thinks that the object he is looking for is in a room. He is able to see into the room by using a small opening in the wall (see diagram below):



Using the diagram in your answer booklet, show how it is possible for the spy to see the object.