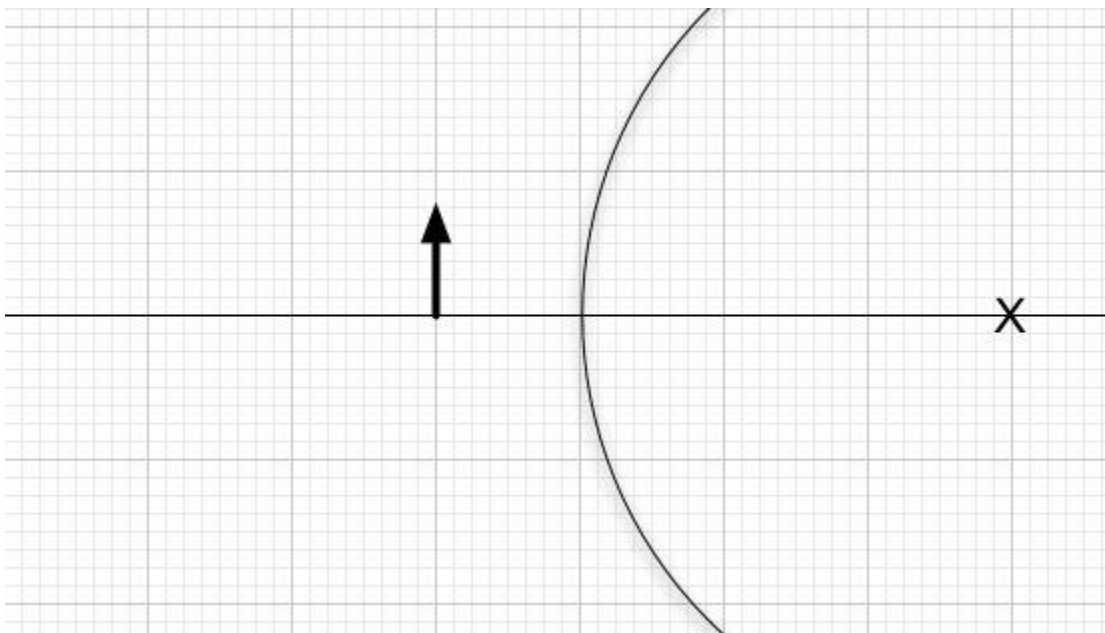


Quiz 5
Phys 221 – Spring 2012

Names: _____

1. Sheila is standing in wide mirrored hallway. The hall is 2 meters wide and has mirrors covering both walls. If Sheila stands 0.5 a meter from the right hand side of the hall, find the distance from Sheila to the first three images in the mirror on the left side of the hall.
2. A mirror has a radius of curvature of 3.0 cm. If an object is placed 2.0 cm from the mirror and produces an image 0.60 cm in height, find where the image is located and the height of the object. Include an accurate ray diagram to scale. Identify the type of mirror and describe the image.
3. *Looking into a Mirror Ball*

While visiting *Ye Olde Shottle Bop*, a store selling strange and exotic objects, you come across a perfectly mirrored glass sphere. It looks pretty strange and you hold your finger near it. Your situation is presented schematically in the figure below with an arrow drawn to represent your finger.



- A) On the figure, draw a ray diagram that will help you identify where the image is located.
- B) Is the image real or virtual? Explain why you say so.
- C) The mirror has a radius of 32 cm, the finger is a distance of 8 cm from the surface of the mirror, and the finger is 8 cm long. Calculate the location and the size of the image using the mirror equation. Does your calculation agree with your drawing? If not, explain why not.