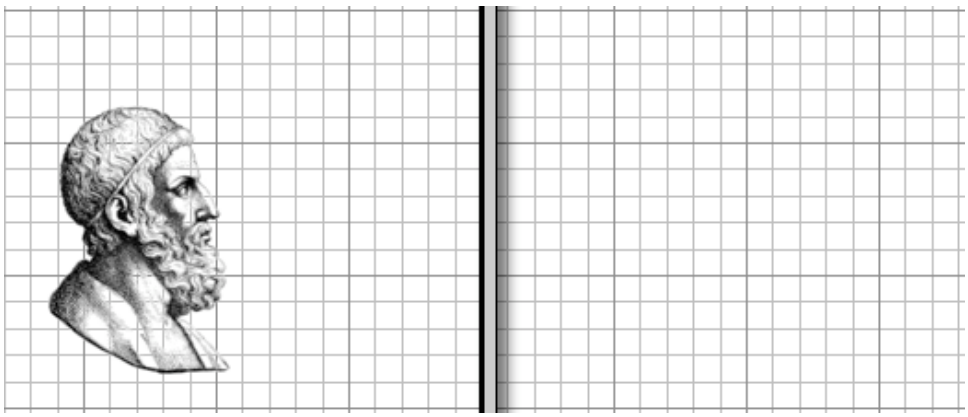
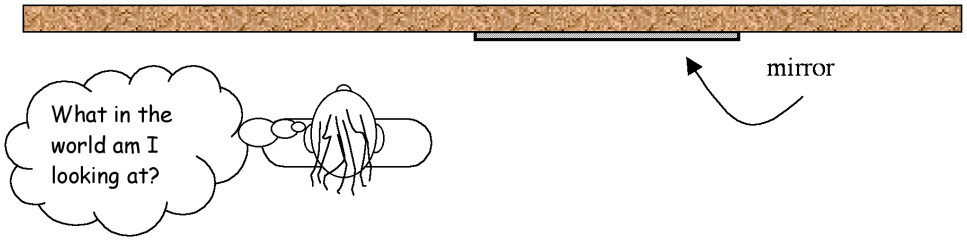
Ch 23 Assignment 2 **Name** _____

Physics II **Date** _____ **Period** _____

1. Archimedes, not having understood Narcissus, looks at himself in a flat mirror, the 3rd Century BC version of a selfie. Where is the image of the tip of his nose? of his ear? Carefully and accurately use the ray model of light to justify your claim. At least three rays should be included for each feature.

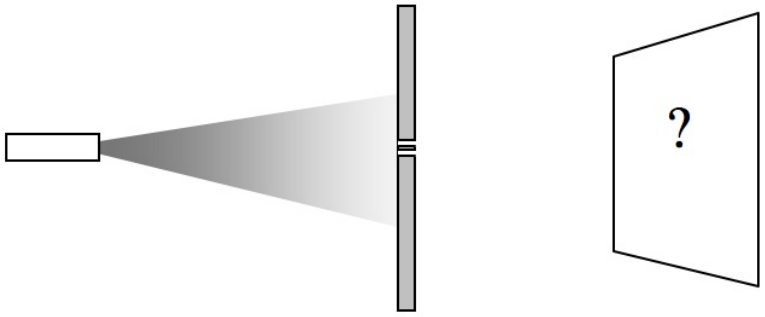


2. The person depicted from a top view below is standing to the left of a mirror on the wall. Does the mirror form an image of this person?

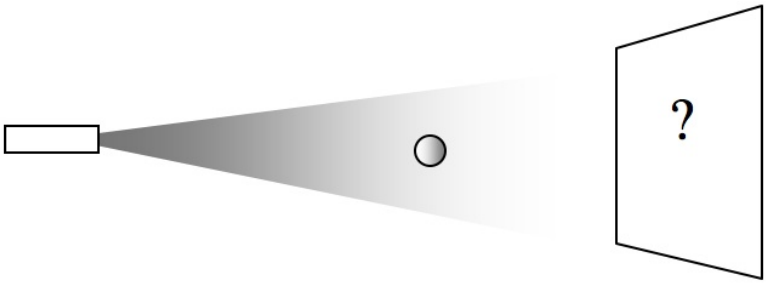


- If not, sketch a ray diagram that indicates why there is no image.
- If so, sketch a ray diagram that explicitly indicates the location of the image (perhaps using his nose), which you can mark with a dot. Mark with an 'X' a position from which an observer could see the image of this person.

3. Suppose you shine an expanded laser beam at a piece of aluminum foil with two holes in it. What would you expect to see on a screen behind the aluminum foil?



4. Suppose you shine an expanded laser beam at a ball bearing. What would you expect to see on a screen beyond the ball bearing?



5. Suppose you shine an expanded laser beam at a piece of aluminum foil with one hole in it. What would you expect to see on a screen behind the aluminum foil?