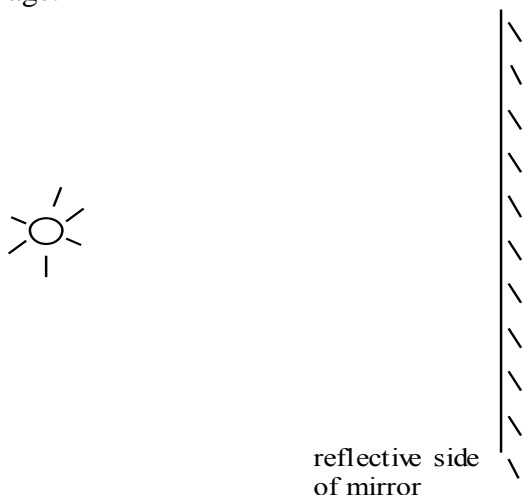


WS 4.7: Mr. Eyefoot

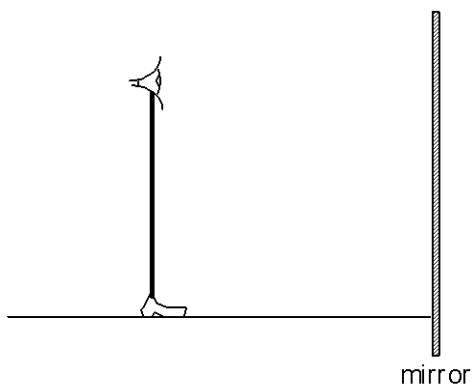
Name _____

* **YOU WILL NEED A PROTRACTOR TO MEASURE ANGLES** * Date _____ Hour _____

1. A bulb is placed in front of a plane mirror. Use a protractor to sketch 4 incident rays that travel from the bulb to the mirror and reflect. Include eyes at positions that could see the reflected rays. Extend the reflected rays with dotted lines *behind the mirror* to locate the virtual image and draw the image.



2. Draw a ray diagram to determine the size and position of Mr. Eyefoot's image. Pick two points on Mr. Eyefoot in order to do this. Then draw Mr. Eyefoot's image.



3. Mr. Eyefoot moves farther away from the mirror. Draw a ray diagram to locate his image.

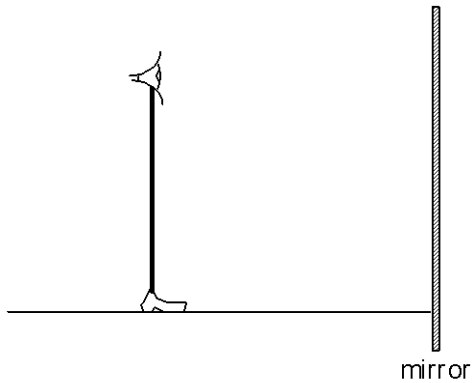


Does the size of Mr. Eyefoot's image change when he moves farther way? _____

Does the location of Mr. Eyefoot's image change when he moves farther away from the mirror?

Explain. _____

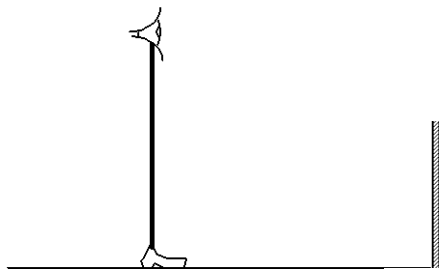
4. How does the size of the smallest mirror you would need to see your entire body at one time compare to your height? To figure this out, show how light rays would reflect from different parts of Mr. Eye-foot's body to his eye. (You do not need to draw a complete ray diagram in order to show this.)



5. Would the length of the mirror needed to see your entire body change if the Mr. Eye-foot were farther away from the mirror? Do the same thing as in #4 to determine this.



6. A small mirror is on the floor. Can Mr. Eye-foot see his face? Draw light rays on the picture below to support your answer.



7. How can Mr. Eye-foot position the mirror on the floor so that he can see his face? Draw a diagram to show why this would work.