

General Physics - E&M (PHY 1308) Lecture

Notes

Quiz011

SteveSekula, 2 December 2010 (created 2 December 2010)

Name: _____

no tags

Date: _____

Rules for the Quiz:

- You are given **25 minutes** to complete this quiz.
- You are allowed to use a calculator and pen/pencil

Part 1: (10 Points) You are designing a flat mirror for a clothing store. The mirror will allow a person to stand 50.0cm away and see their whole body, down to their feet. The top of the mirror will be 2.0m above the ground, and an average American has a height of 1.7m. You want to make the mirror as cheaply as possible, so you want it to be as short as possible. At what height, h , above the ground does the bottom of the mirror need to be in order for an average person to see their feet? See the picture below for help.

Part 2: (10 Points) You are also designing a concave cosmetic mirror that will allow a person to see an enlarged, upright, virtual image of parts of their face. You want the magnification of the face to be $M = 4.0$ when their face is 25.0cm from the mirror. What is the focal length that you need to design into this cosmetic mirror?

