1. (3 ½) (a) For the following object and plane mirror, start at the tip of the arrow of the object and draw in at least two rays (as directed) to locate the image. One of these should be a ray along the normal to the mirror. The other ray should be a ray that is given off by the object that reflects off the mirror and then enters the eye. Use solid lines to indicate real rays and dashed lines to indicate the extension of real rays. Use the edge of your calculator (or iPhone) as a straight edge.

(b) (1 ½) Three multiple choice questions: The final image is (real, virtual) and is (erect, inverted) and is (magnified, not magnified). (Please circle correct answers.)

2. (4) (a) For the diverging mirror illustrated, the object is 20 cm from the vertex of the mirror. The absolute value of the radius of curvature of the mirror is 40 cm. Find the image distance, locate the final image, and find the magnification. (Hint: Use the correct signs when plugging in.)

(b) (1) Two multiple choice questions: The final image is (real, virtual) and is (erect, inverted). (Please circle correct answers.)