This print-out should have 13 questions. Multiple-choice questions may continue on the next column or page – find all choices before answering.

001 (part 1 of 2) 10.0 points
An object is \( p = 41.1 \) cm in front of a concave mirror. Its real image height is 8 times larger than the object height.

What is the location of the image? Answer in units of \( \text{cm} \).

002 (part 2 of 2) 10.0 points
What is the radius of curvature of the mirror? Answer in units of \( \text{cm} \).

003 10.0 points
A concave mirror has a focal length of 37.5 cm. Determine the object position for which the resulting image is upright and four times the size of the object. Answer in units of \( \text{cm} \).

004 (part 1 of 4) 10.0 points
A certain concave spherical mirror has a focal length of 8.26 cm. Find the location of the image for an object distance of 19.8 cm. Answer in units of \( \text{cm} \).

005 (part 2 of 4) 10.0 points
What is the magnification for an object distance of 19.8 cm?

006 (part 3 of 4) 10.0 points
Find the location of the image for an object distance of 6 cm. Answer in units of \( \text{cm} \).

007 (part 4 of 4) 10.0 points
Calculate the magnification for an object distance of 6 cm.

008 10.0 points

A convex mirror has a focal length of 60 cm. What is the position of the resulting image if the image is erect and 9 times smaller than the object? Answer in units of \( \text{cm} \).

009 (part 1 of 3) 10.0 points
An object 2.78 cm high is placed 29.9 cm from a convex mirror having a focal length of \(-6.55\) cm. Find the position of the final image. Answer in units of \( \text{cm} \).

010 (part 2 of 3) 10.0 points
What is the magnification? Answer in units of \( \% \).

011 (part 3 of 3) 10.0 points
Calculate the height of the image. Answer in units of \( \text{cm} \).

012 (part 1 of 2) 10.0 points
An object is 12.8 cm from the surface of a reflective spherical Christmas-tree ornament 2.93 cm in diameter. What is the position of the image? Answer in units of \( \text{cm} \).

013 (part 2 of 2) 10.0 points
What is the magnification of the image?