Mathematics of Curved Mirrors

Read from **Lessons 3** and **4** of the **Reflection chapter** at **The Physics Classroom:**

http://www.physicsclassroom.com/Class/refln/u13l3f.html
http://www.physicsclassroom.com/Class/refln/u13l4d.html

MOP Connection: Reflection and Mirrors: sublevels 7 and 10

Use the mirror equation and the magnification ratio to solve the following problems. **PSYW**

1. Bobby places a 4.25-cm tall light bulb a distance of 36.2 cm from a concave mirror. If the mirror has a focal length of 19.2 cm, then what is the image height and image distance?

2. Van Itee, quite concerned about the pimple on his chin, is looking into a concave mirror with a focal length of 33.6 cm. Determine the image height and image distance of the 2.50-mm sized pimple when placed 25.2 cm from the mirror.

3. Al Wayscurious is intrigued by the reflective abilities of his family's soup ladle. The ladle acts as a concave mirror with a 2.59-cm focal length. Determine the image size of Al's 24.8-cm tall face when placed 12.8 cm from the ladle's surface.

4. Mr. H splurged when he bought his Yugo and ordered the side mirror option. The mirror has a focal length of -88.4 cm. What is the image height of a 4.59-meter tall truck when located 12.6 meters away from the mirror?

5. A Christmas tree ornament with an 8.64-cm diameter serves as a convex mirror surface. Determine the image size and the image distance of a 4-foot tall child standing a distance of 2.65 meters away.

