Concave & Convex Mirrors

In each of the following problems, an object that is 12 cm tall is placed in front of a curved, spherical mirror with a focal length of 18 cm.

1. The mirror is concave and the object is placed 58 cm from the mirror.

   (a) Show the location and orientation of the image by accurately drawing a ray diagram on the image to the right.

   (b) Calculate the height and orientation of the image, and its distance from the mirror.

2. The mirror is concave and the object is placed 36 cm from the mirror.

   (a) Show the location and orientation of the image by accurately drawing a ray diagram on the image to the right.

   (b) Calculate the height and orientation of the image, and its distance from the mirror.
3. The mirror is concave and the object is placed 32 cm from the mirror.

(a) Show the location and orientation of the image by accurately drawing a ray diagram on the image to the right.

(b) Calculate the height and orientation of the image, and its distance from the mirror.

4. The mirror is concave and the object is placed 6 cm from the mirror.

(a) Show the location and orientation of the image by accurately drawing a ray diagram on the image to the right.

(b) Calculate the height and orientation of the image, and its distance from the mirror.

5. The mirror is convex and the object is placed 15 cm from the mirror.

(a) Show the location and orientation of the image by accurately drawing a ray diagram on the image to the right.

(b) Calculate the height and orientation of the image, and its distance from the mirror.