PHY 1304 Quiz #8 Fall 2008 Name: KEY

1) A concave spherical mirror has a radius of curvature of 8 cm. Light is incident from a source placed 3 cm in front of the mirror. Where is the image? Describe the size, orientation and kind (i.e. virtual or real) of image. [15 pts]

$$\frac{1}{f} = \frac{2}{R} = \frac{1}{p} + \frac{1}{q}$$

$$\frac{2}{8} = \frac{1}{3} + \frac{1}{q}$$

$$q = -12 \text{ cm}$$

$$M = -\frac{q}{p} = -\frac{(-12)}{3} = 4$$

- Image is ~~and~~ at -12cm, behind the mirror
- The image size is 4x the ~~image~~ object size
- Upright
- Virtual