

**Try Example 2 without looking at Example 1.**

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

$$m = \frac{h_i}{h_o} = -\frac{q}{p}$$

**Example 2** A 1-cm tall miniature light bulb is placed a distance of 2.0 cm from a **CONVEX** mirror having a focal length of 3.0 cm. Find q and hi using a scaled ray diagram AND equations.

Scaled ray diagram:	Equations:

q = \_\_\_\_\_  
hi = \_\_\_\_\_

q = \_\_\_\_\_  
hi = \_\_\_\_\_

**Example 3 a)** A 1-cm tall plastic pig is placed a distance of 4.0 cm from a **CONCAVE** mirror with a focal length of 1.5 cm. Find q and hi using a scaled ray diagram AND equations.

Scaled ray diagram:	Equations:

q = \_\_\_\_\_  
hi = \_\_\_\_\_

q = \_\_\_\_\_  
hi = \_\_\_\_\_

b) Calculate the magnification of this mirror using an equation:

What % of the original size will the image be? \_\_\_\_\_ What does the negative sign mean? \_\_\_\_\_