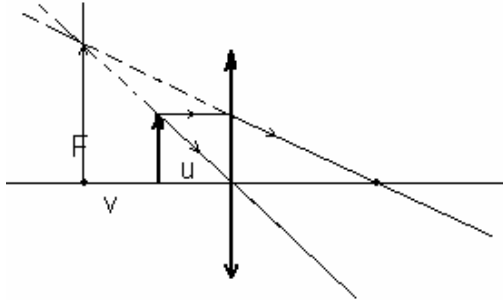**QUESTION:**
A spherical concave lens has a focal length of 40 cm, and an object is placed 20 cm from the lens. Draw a ray diagram. (Submit a file with a maximum size of 1 MB.)
Estimate the image distance.

SOLUTION:
Let's draw a ray diagram:

Here **u** is object distance, **v** is image distance and **F** is focal length.
According to the thin lens formula

$$\frac{1}{u} - \frac{1}{v} = \frac{1}{F}$$

$$\frac{1}{v} = \frac{1}{u} - \frac{1}{F}$$

$$v = \frac{uF}{F - u}$$

$$v = 40 \ cm$$

ANSWER
40 cm