An object is placed 8 cm away in front of concave mirror of focal length 5 cm. Find the position of image and magnification.

$$u = -8\,cm$$

$$f = -5\,cm$$

$$\frac{1}{f} = \frac{1}{v} + \frac{1}{u}.$$

$$\frac{1}{v} = \frac{1}{f} - \frac{1}{u}.$$

$$\frac{1}{v} = \frac{1}{-5} - \frac{1}{-8}$$

$$\frac{1}{v} = \frac{-3}{40}$$

$$v = \frac{40}{-3} = -13.34$$

$$m = \frac{-v}{u} = \frac{-(-(13.34))}{-8}$$

$$m = \frac{13.34}{8} = 1.6675$$