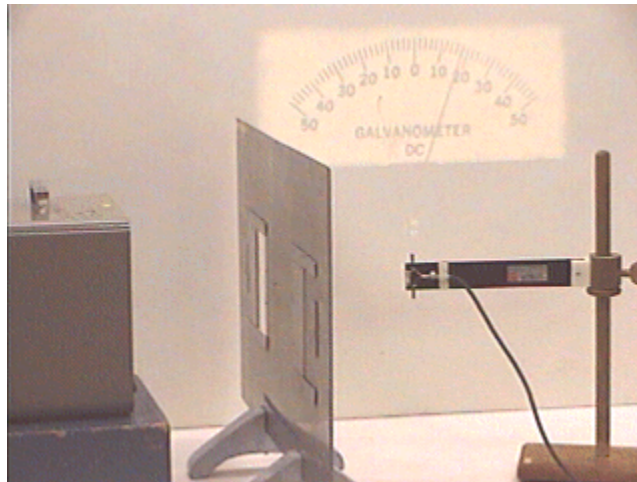# Answer #146

The answer is (a): the reading will become greater, as seen in an mpeg video by clicking your mouse on the photograph below.

The difference between the path from the front slit to the detector and the rear slit to the detector is 6 cm, one-half wavelength of the microwave radiation from the source. Therefore the waves from the two slits are *out of phase*, and they interfere *destructively*. When one of the slits is closed the meter reads the (greater) value of the wave coming from the other slit. Because they are out of phase, the sum is *less than* either of its parts!