# Estimating the storage capacity of a CD/DVD using diffraction
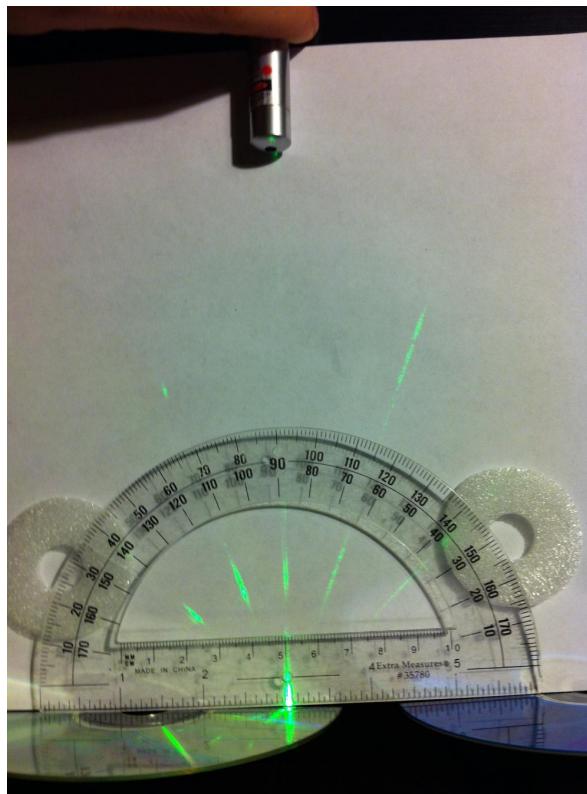
CD/DVD drive
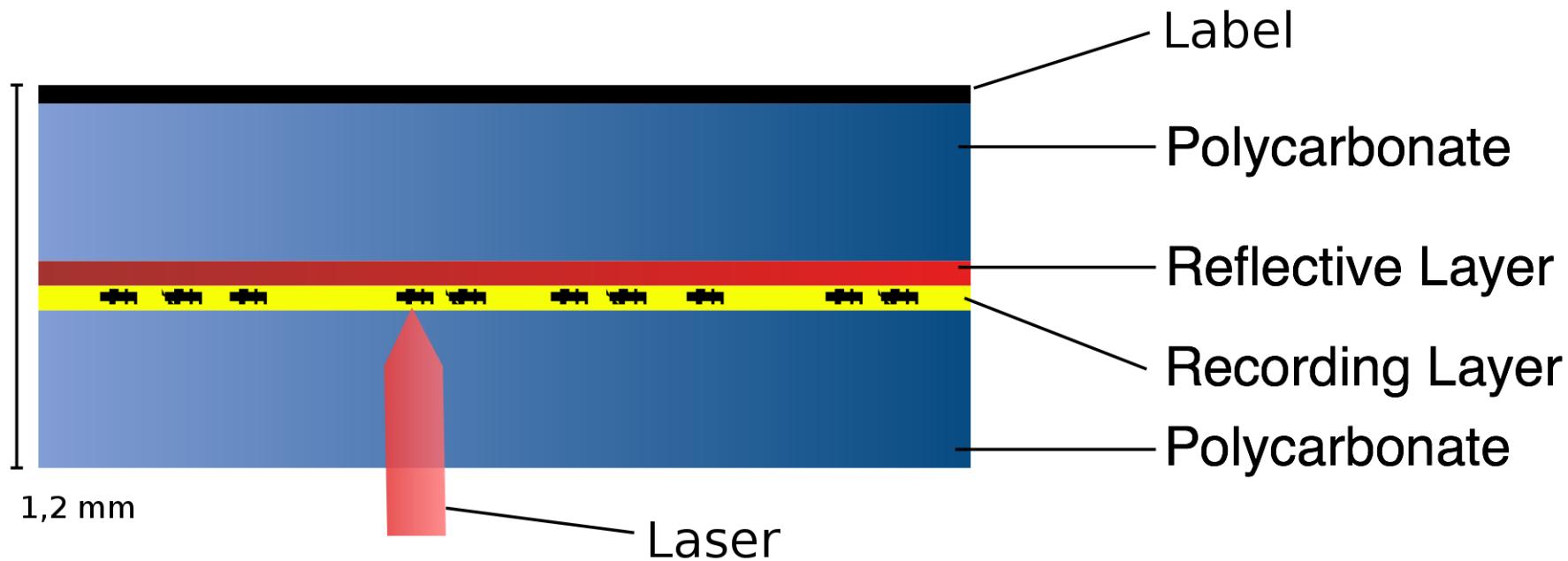

Label

Polycarbonate

Reflective Layer

Recording Layer

Polycarbonate

1,2 mm

Laser

How does a CD/DVD store data?

$$d \sin q = m\lambda$$

Diffraction order
m = +1

Wavelength /

Diffraction order
m = -1

q
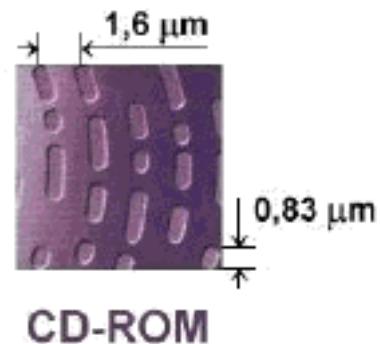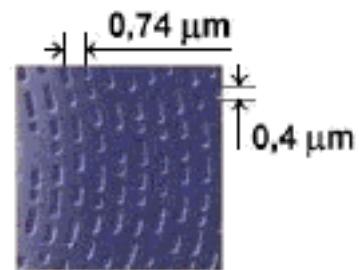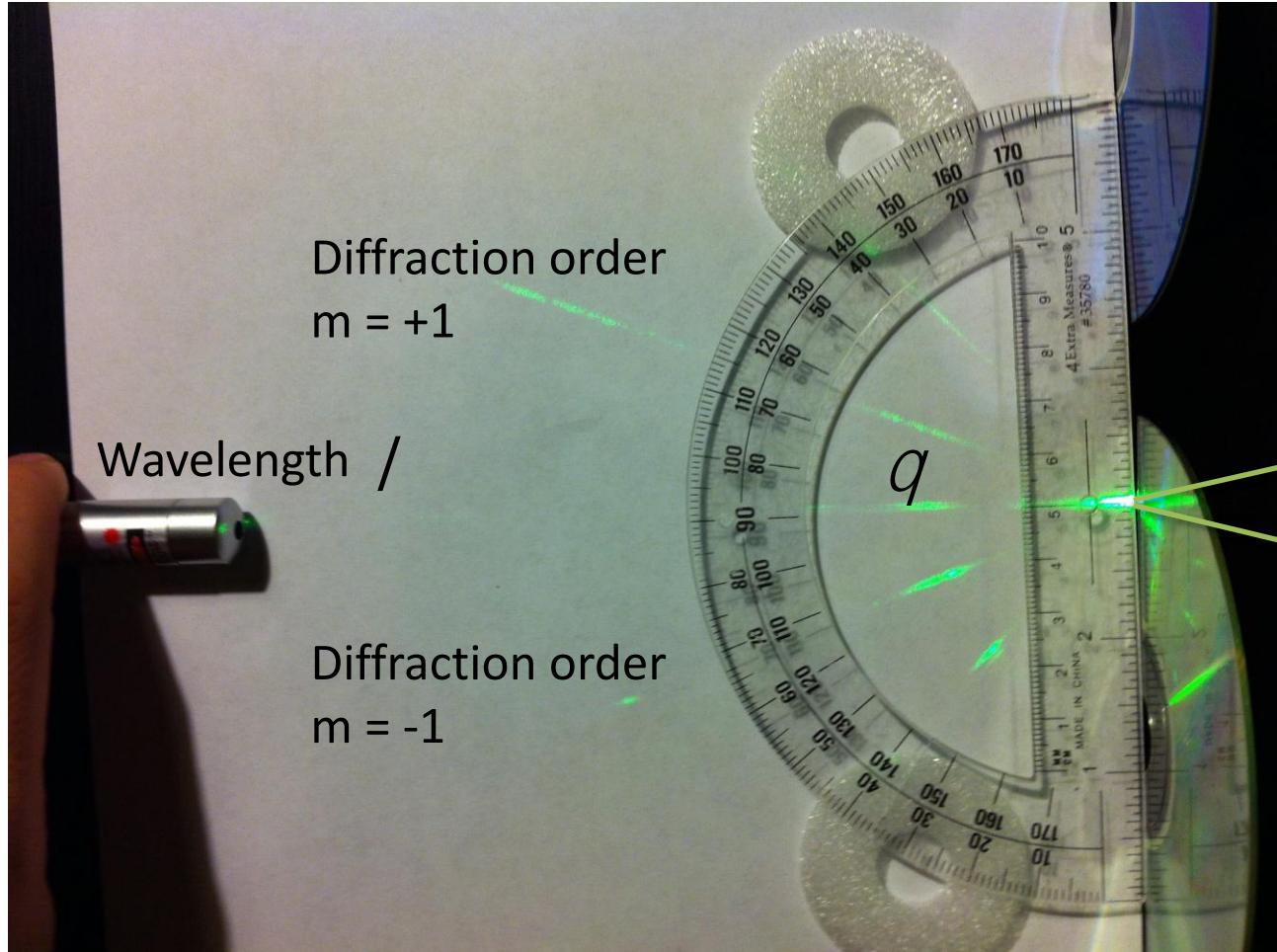
Distance between
rows of pits

$d =$

1,6 μm
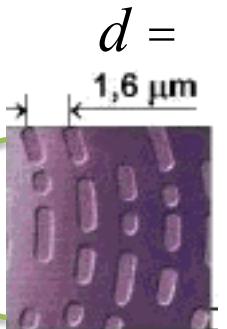
Measuring diffraction angles
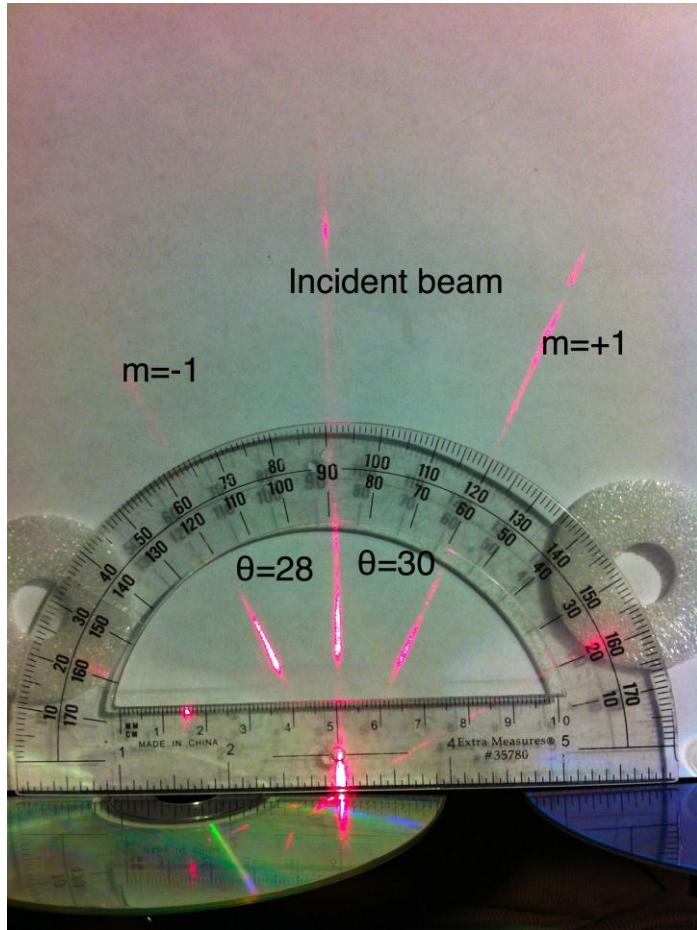
You would record it as follows:

	Laser color	Wavelength (nm)	Θ, m=+1	Θ,m=-1	d, m=+1	d, m=-1	d_{mean}
CD	red		30	28			
DVD							

Also identify the wavelength of your laser. Then calculate d.