## Quiz 27.1C

Light is incident on a diffraction grating and multiple orders of the visible spectrum (400-700 nm) are reflected on a nearby screen. For one of the orders (unknown order number), the angle of reflection of blue light $(400 \mathrm{~nm})$ is measured to be $12.0^{\circ}$.
a) What will be the angle of reflection seen in the same order for red light ( 700 nm )? Answer with 3 SF.
b) Suppose the unknown order referred to above is $m=2$. What would be the line density of this grating (in lines/cm)?
c) Given your answer to (b), how many complete orders of the visible spectrum can be observed?

