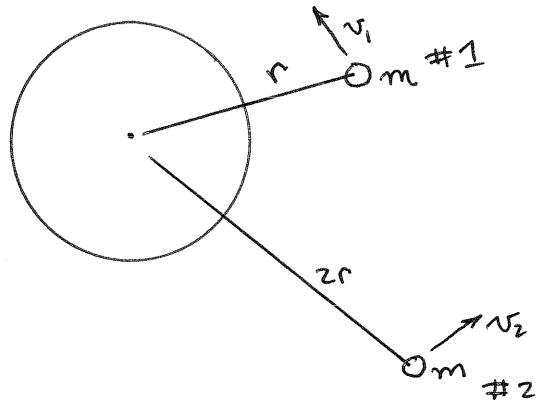
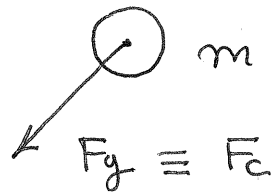


TWO IDENTICAL SATELLITES...



COMPARE THE CENTRIPETAL FORCE FOR THE TWO Satellites \Rightarrow



$$F_g = \frac{GMm}{r^2}$$

$$F_{g1} = \frac{GMm}{r_1^2}$$

$$F_{g2} = \frac{GMm}{r_2^2}$$

$$\frac{F_{g2}}{F_{g1}} = \frac{\cancel{GMm}}{r_2^2} \cdot \frac{r_1^2}{\cancel{GMm}} = \frac{r_1^2}{r_2^2}$$

$$F_g = \frac{GMm}{r^2} = mg$$

$$g = \frac{GM}{r^2}$$

$$\frac{F_{g2}}{F_{g1}} = \frac{r_1^2}{(2r_1)^2} = \frac{1}{4}$$

$$F_{g2} = \frac{1}{4} F_{g1}$$