

## Circular Motion Exercises (1 page; 11/3/17)

(1) Find the height above the earth's surface of a satellite in geostationary orbit (above the equator), using the following data:

radius of earth = 6370 km

mass of earth  $\approx 6 \times 10^{24}$  kg

$G \approx 7 \times 10^{-11}$

Gravitational force =  $\frac{GMm}{r^2}$

(2) A bike is being ridden round a circular track of radius 50m, banked at  $30^\circ$ . If the coefficient of friction is 0.3, what is the slowest speed possible?