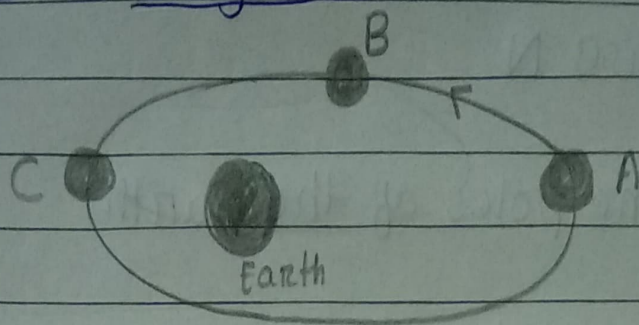## Home Assignment

(a) The magnitude of the satellite's acceleration at the point C is larger than the magnitude of its acceleration at the point A

We know that $F = \dfrac{G m_1 m_2}{R^2}$

As R decreases, force increases $\left[F \propto \dfrac{1}{R} \right]$

(b) Satellite's speed at the point C is larger than than its speed at point A. According to Kepler's law, areal velocity remains constant. To make constant, the speed of point C has to be larger.

(c) In point A, $\hat{\imath}$ is negative and $\hat{\jmath}$ is positive

(d) In point B, $\hat{\imath}$ is negative & $\hat{\jmath}$ is negative

(e) In point C, $\hat{\imath}$ is positive & $\hat{\jmath}$ is negative

(f) If the satellite will move around its orbit in oppoi sense, then the value of preceding three questions will change.

3/

Home Assignment

1) 12500 N

2) at the poles of the earth

3) 5 seconds

4. 8T