

HW
2/18/21

$$1) F = \frac{GMm}{r^2} \quad \therefore F \propto \frac{1}{r}$$

Force of gravity is more at C & less at A

a) acceleration at C > acceleration at A

b) Speed at C > Speed at A

c) Let the earth be at Point E

~~Here~~ Then EA coincides OA_i

$$a_i = -ve$$

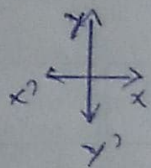
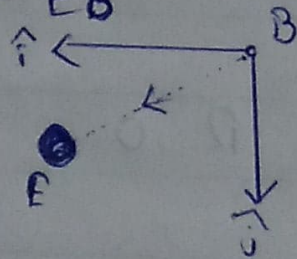
$$a_j = 0$$

d) From the central force ~~for~~ for EB

We can conclude that

$$a_i = -ve$$

$$a_j = -ve$$

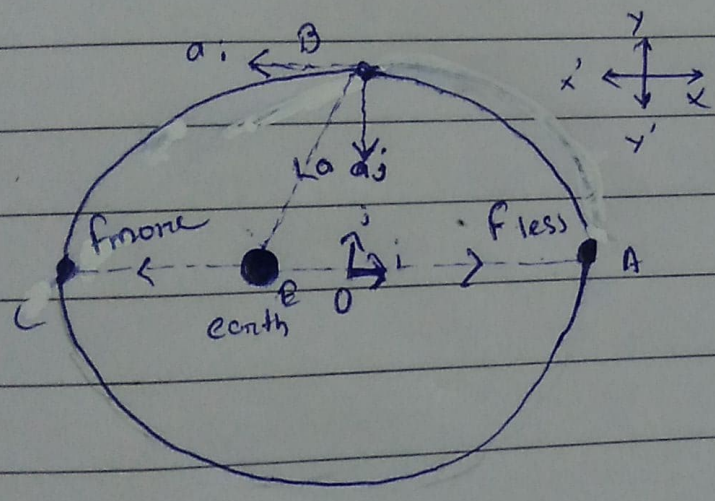
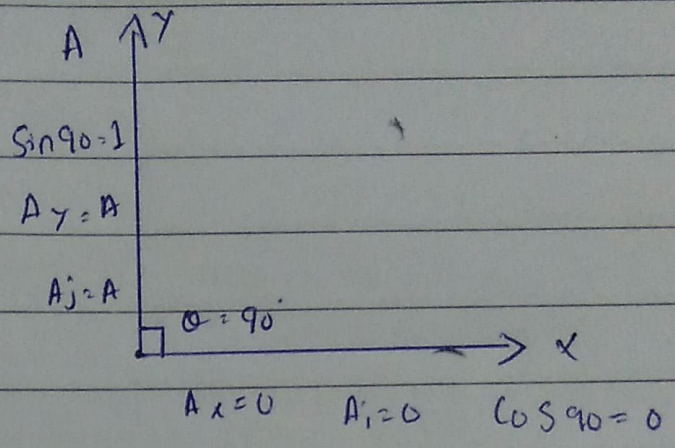
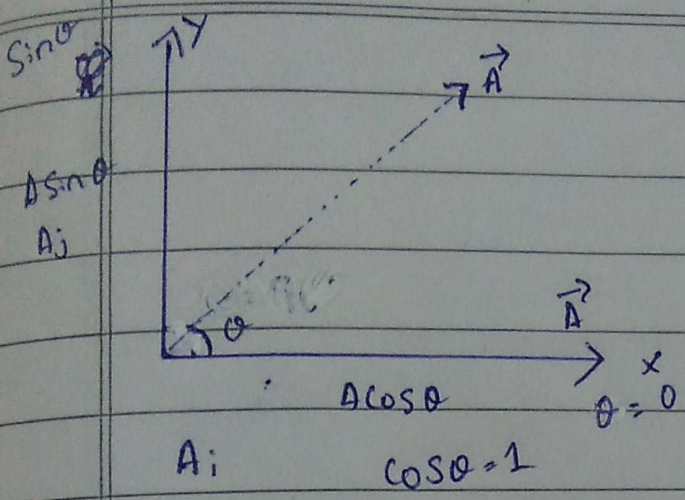


e) at C EC coincides OA_i

$$\therefore a_i = +ve$$

$$a_j = 0$$

b) If satellite moves in anticlockwise then still the acceleration component remain the same.



5) If the satellite moves in anticlockwise direction the acceleration component will be different.

(1) b) 12500 N

(2) a) At poles of earth

(3) a) 5 sec

(4) c) 8 T