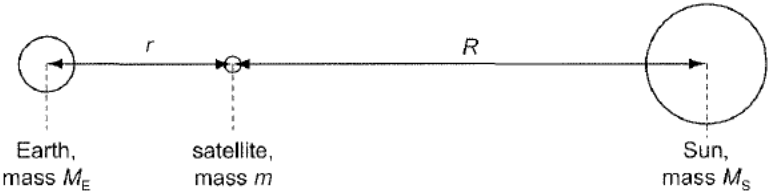
11 The diagram shows a solar satellite, mass m, positioned directly between the Earth, mass M_E, and the Sun, mass M_s. The satellite is a distance r from the Earth and a distance R from the Sun.



The satellite rotates in a circle around the Sun once a year and therefore moves around the Sun with the Earth, both having the same angular velocity ω
Which force = mass x acceleration equation applies for the satellite?

A $\frac{GM_Sm}{R^2} = m \times (R\omega^2)$

B $\frac{GM_Em}{r^2} = m \times (R\omega^2)$

C $\frac{GM_Em}{r^2} - \frac{GM_Sm}{R^2} = m \times (R\omega^2)$

D $\frac{GM_Sm}{R^2} - \frac{GM_Em}{r^2} = m \times (R\omega^2)$

12 A satellite orbiting the Earth moves to an orbit further away from the Earth, such that its