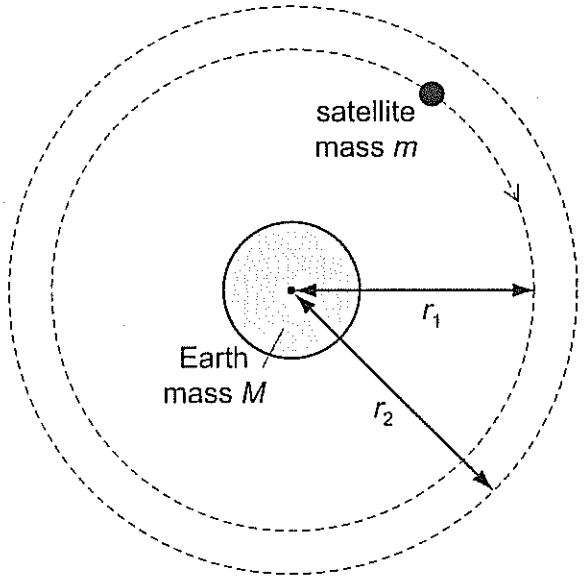
13 A satellite of mass m is moved from a circular orbit of radius r_1 around the Earth to a new circular orbit of radius r_2, as shown.



The mass of the Earth is M and the gravitational constant is G.

What is the increase in the potential energy of the satellite?

A $GM(\frac{1}{r_2} - \frac{1}{r_1})$

B $GM(\frac{1}{r_1} - \frac{1}{r_2})$

C $GMm(\frac{1}{r_2} - \frac{1}{r_1})$

D $GMm(\frac{1}{r_1} - \frac{1}{r_2})$