7 A space shuttle of mass m is returning to Earth of mass M. The space shuttle falls from a height R above the Earth, where R is equal to the radius of the Earth.

Which of the following gives the change in gravitational potential energy, ΔE_{grav}, of the space shuttle?

☒ **A** $\Delta E_{grav} = GMm\left(\frac{1}{2R} - \frac{1}{R}\right)$

☒ **B** $\Delta E_{grav} = GMm\left(\frac{1}{R} - \frac{1}{2R}\right)$

☒ **C** $\Delta E_{grav} = \frac{GMm}{R}$

☒ **D** $\Delta E_{grav} = \frac{GMm}{2R}$

(Total for Question 7 = 1 mark)