15 Earth has a mass M and radius R. X is a point $5R$ from the center of the Earth.

An object of mass m falls freely from rest at X and hits the surface of the Earth.

Which of the following statements is false?

A The change in gravitational potential is $\frac{4}{5}\frac{GM}{R}$.

B The work done by the gravitational field is $\frac{4}{5}\frac{GMm}{R}$.

C The speed of impact is $\sqrt{\frac{8}{5}\frac{GM}{R}}$.

D The change in the magnitude of gravitational field strength is $\frac{24}{25}\frac{GM}{R^2}$.