

**12** The acceleration of free fall on the surface of the Earth is 6 times its value on the surface of the Moon. The mean density of the Earth is  $\frac{5}{3}$  times the mean density of the Moon.

If  $r_E$  is the radius of the Earth and  $r_M$  the radius of the Moon, what is the value of  $\frac{r_E}{r_M}$ ?

**A** 2.4

**B** 3.6

**C** 4.8

**D** 6.0