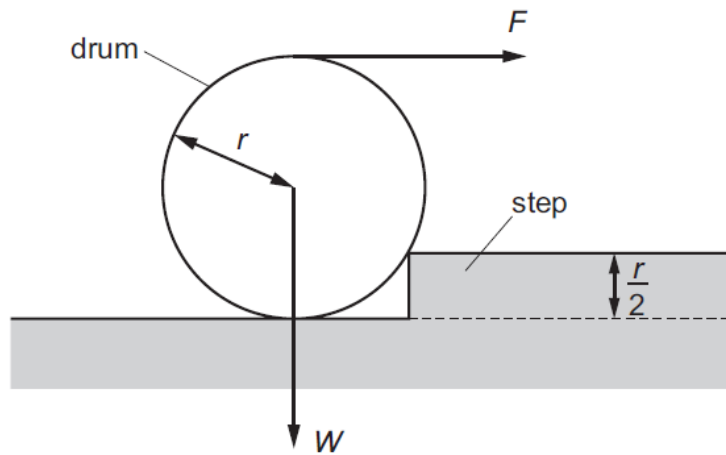**6** A cylindrical drum has radius r and weight W. The drum is to be rolled over onto a step of height $\frac{r}{2}$ by a horizontal force F applied to the top of the drum.

What is the minimum force F required for the drum to start rolling on the step?

A $\quad \dfrac{W}{2}$
B $\quad \dfrac{W}{\sqrt{3}}$
C $\quad W$
D $\quad \dfrac{\sqrt{3}}{2}W$