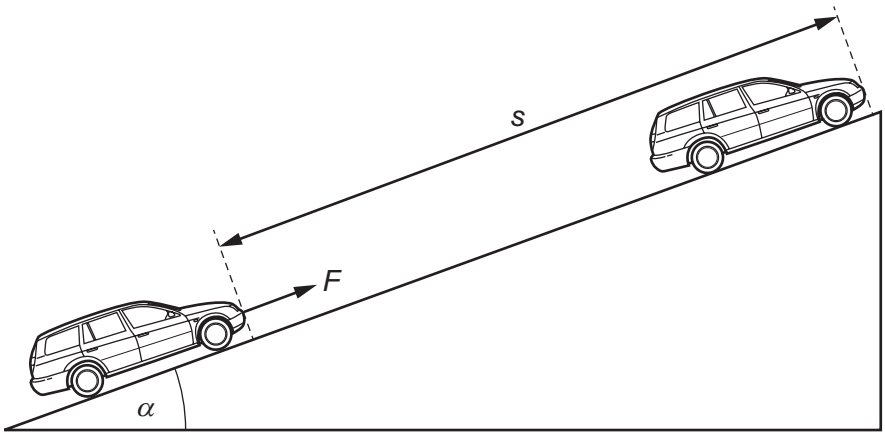
17 A constant force *F*, acting on a car of mass *m*, moves the car up a slope through a distance *s* at constant velocity *v*. The angle of the slope to the horizontal is α.



The acceleration of free fall is *g*.

What is the ratio $\frac{\text{gravitational potential energy gained by car}}{\text{work done by force } F}$?

A $\frac{mgs\sin\alpha}{Fv}$ **B** $\frac{mv}{Fs}$ **C** $\frac{mv^2}{2Fs}$ **D** $\frac{mg\sin\alpha}{F}$

18 What is the definition of power?

A Power is the product of force and velocity.

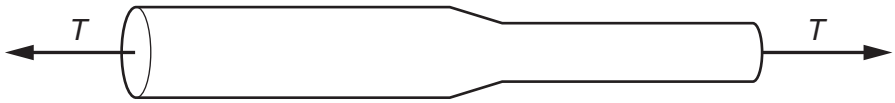
B Power is the product of force and work done per unit time.

C Power is the product of force per unit time and velocity.

D Power is the rate at which work is done.

19 A steel bar of circular cross-section is under tension *T*, as shown.

The diameter of the wide portion is double the diameter of the narrow portion.



What is the value of $\frac{\text{stress in the wide portion}}{\text{stress in the narrow portion}}$?

A 0.25 **B** 0.50 **C** 2.0 **D** 4.0