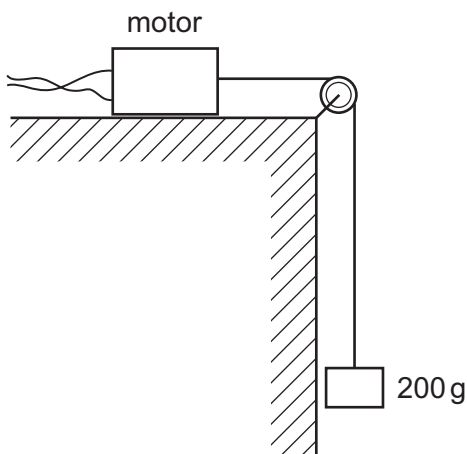


- 15 A small electric motor is mounted on a bench, as shown. The motor is connected to a 6.0 V supply and the current in the motor is 0.50 A. The motor is 50% efficient.



What is the time taken to lift a mass of 200 g up through a height of 90 cm?

- A** 0.59 s      **B** 0.85 s      **C** 1.2 s      **D** 2.7 s
- 16 A projectile is launched at  $45^\circ$  to the horizontal with initial kinetic energy  $E$ .  
Assuming air resistance to be negligible, what will be the kinetic energy of the projectile when it reaches its highest point?
- A**  $0.50 E$       **B**  $0.71 E$       **C**  $0.87 E$       **D**  $E$
- 17 What is the correct name for a material containing long-chain molecules that are tangled and coiled?
- A** amorphous metal  
**B** amorphous polymer  
**C** crystalline metal  
**D** crystalline polymer

**Space for working**