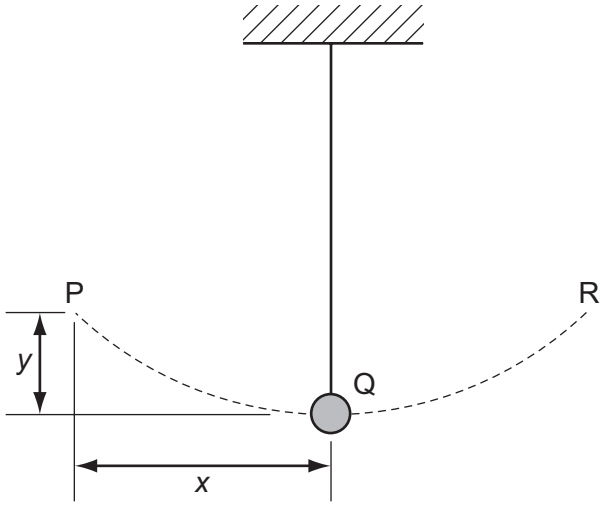
17 A pendulum bob oscillates between P and R.



Assuming the gravitational potential energy lost in moving from P to Q is converted into kinetic energy, what is the speed of the bob at Q?

A $\sqrt{2gx}$ **B** $2gx$ **C** $\sqrt{2gy}$ **D** $2gy$

18 Which operation involves the greatest mean power?

A a car moving against a resistive force of 0.4 kN at a constant speed of 20 m s^{-1}

B a crane lifting a weight of 3 kN at a speed of 2 m s^{-1}

C a crane lifting a weight of 5 kN at a speed of 1 m s^{-1}

D a weight being pulled across a horizontal surface at a speed of 6 m s^{-1} against a frictional force of 1.5 kN

19 Which properties best describe modelling clay?

A brittle and ductile

B ductile and elastic

C elastic and plastic

D plastic and ductile

20 Why does the pressure of a gas increase when the gas is compressed at constant temperature?

A The gas molecules collide more often with each other.

B The gas molecules expand under pressure.

C The gas molecules hit the walls of the container more frequently.

D The gas molecules travel faster.