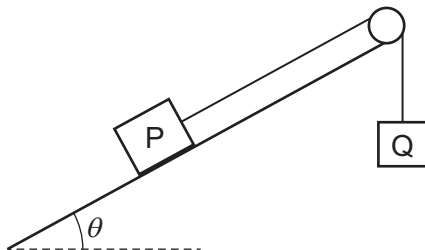


- 16** The diagram shows a block P of mass M connected by a string over a frictionless pulley to a block Q of mass m .



Block P moves up the slope with a constant velocity v . The slope is at angle θ to the horizontal.

The acceleration of free fall is g .

The resistive forces on the blocks are negligible.

Which expressions give the energy transferred per unit time to block P?

1 mgv

2 $Mgv \sin \theta$

3 $(M + m)gv$

A 1 and 2

B 1 only

C 2 and 3

D 2 only