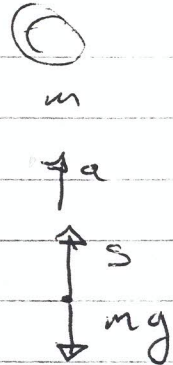
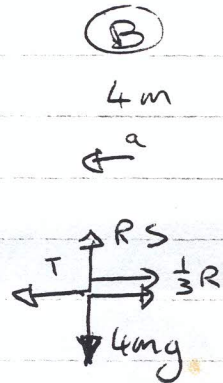
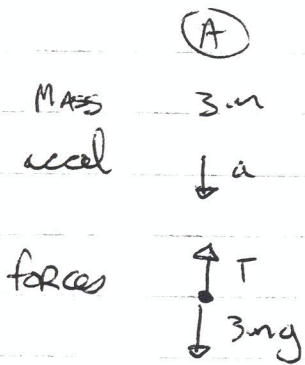
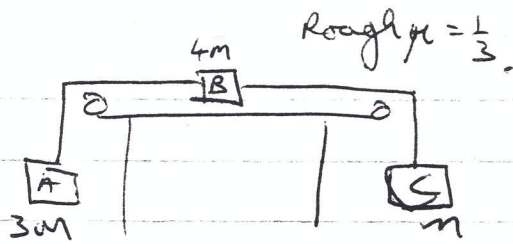


1475 Q3



NI:  $3mg - T = 3ma$

⊥ to table } // to table

$R - 4mg = 0$  }  $T - S - \frac{1}{3}R = 4ma$

$R = 4mg$  }  $T - S - \frac{4mg}{3} = 4ma$

$S - mg = ma$

To find distance fallen first find acceleration  $a$

(A)  $\Rightarrow 3mg - T = 3ma$

(B)  $\Rightarrow T - S - \frac{4}{3}mg = 4ma$

(C)  $\Rightarrow S - mg = ma$

$\frac{2mg}{3} = 8ma \Rightarrow a = \frac{g}{12} \text{ ms}^{-2}$

$\Rightarrow$  distance fallen in time  $t$ .

$s = ut + \frac{1}{2}at^2$

$\Rightarrow s = 0 + \frac{1}{2} \cdot \frac{g}{12} t^2$

$s = \frac{g t^2}{24}$  metres