

3A

(1) (a)  $W = 3(10) = 30 \text{ N}$

(b)  $W = \frac{10}{1000}(10) = 0,1 \text{ N}$

(c)  $W = 800(10) = 8000 \text{ N}$

(2)  $W = 170 \text{ N} = mg$

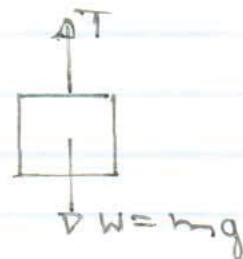
$\therefore m(10) = 170 \text{ N}$

$\therefore m = 17 \text{ kg}$

(4)  $\uparrow \Sigma F = ma$

$\therefore T - 1600(10) = 1600(1,2)$

$\therefore T = 17920 \text{ N} \approx 17900 \text{ N}$

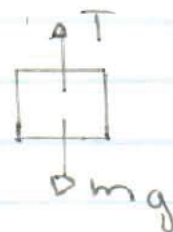


(10) Constant speed:

A)  $\Sigma F = 0: T - mg = 0$

$\therefore 1250 - m(10) = 0$

$\therefore m = 125 \text{ kg}$



Accelerating: A)  $\Sigma F = ma$

$\therefore T_1 - mg = ma$

$\therefore T_1 - 125(10) = 125(0,2)$

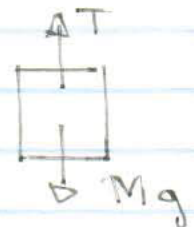
$\therefore T_1 = 1275 \text{ N} \uparrow$

(15) A)  $\Sigma F = ma: T - Mg = Ma \text{ --- ①}$

A)  $v^2 = u^2 + 2as$

$\therefore a = \frac{v^2}{2s}$

--- ②



Sub ② into ①:  $T - Mg = M \frac{v^2}{2s}$

$\therefore s = \frac{Mv^2}{2(T - Mg)}$