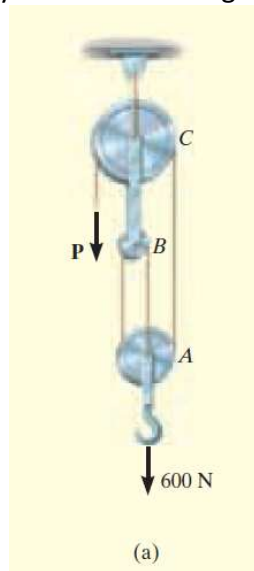


## Statics: Frames and Machines Analysis- *Solved problems*

Determine the tension in the cables and also the force P required to support the 600-N force using the frictionless pulley system shown in Fig.a.



Solved by Civil Thinking (<https://civilthinking.com>)  
One cable  $\Rightarrow$  one equal pull on its every point.

Solved by Civil Thinking (<https://civilthinking.com>)

Solve by Civil Thinking (<https://civilthinking.com>)  
 $\uparrow \sum F_y = 0 \quad 3P - 600 = 0$   
 $P = 200 \text{ N} \quad \text{ANS.}$

Solved by Civil Thinking (<https://civilthinking.com>)

Solve by Civil Thinking (<https://civilthinking.com>)  
 $T - 2P = 0 \Rightarrow T - 2 \times 200 = 0$   
 $T = 400 \text{ N} \quad \text{ANS}$

Solve by Civil Thinking (<https://civilthinking.com>)  
 $R - 2P - T = 0 \Rightarrow R = 2P + T = 2 \times 200 + 400 \text{ N}$   
 $= 800 \text{ N} \quad \text{ANS}$

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