Blocks with masses $m_1$ and $m_2$ are connected by a string, which passes over a pulley which has a radius $R$ and the moment of inertia $I$.

The acceleration of the two masses is $a$, and the pulley is constrained to rotate clockwise with the rotational equation of motion of the pulley given by

A) $(T_1 - T_2)R = \frac{Ia}{R}$.

B) $(T_2 - T_1)R = \frac{Ia}{R}$.

C) $(T_1 - T_2)R = Ia$.

D) $(T_2 - T_1)R = Ia$. 


The rotational equation of motion is given by \( \tau = I \alpha = I \frac{a}{R} \).

Since \( m_2 \) is descending and the pulley is rotating in a clockwise manner, \( T_2 \) is greater than \( T_1 \).

Answer \textbf{B}.

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