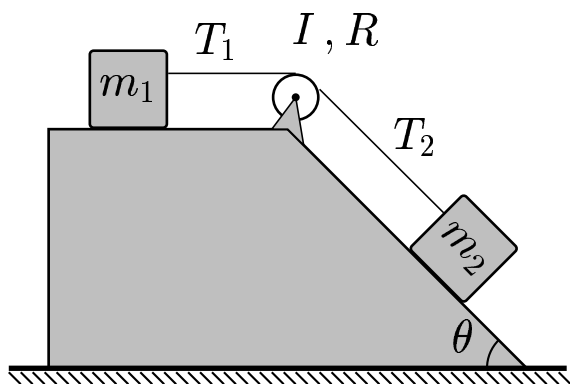


Blocks with masses m_1 and m_2 are connected by a string, which passes over a pulley which has a radius R and the moment of inertial I .



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) $(T_1 - T_2) R = \frac{I a}{R}$.
- B) $(T_2 - T_1) R = \frac{I a}{R}$.
- C) $(T_1 - T_2) R = I a$.
- D) $(T_2 - T_1) R = I a$.

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 **B**.

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