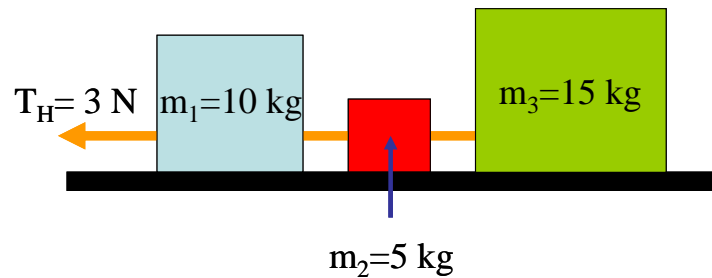


Problem Statement

Three blocks ($m_1=10\text{ kg}$, $m_2=5\text{ kg}$, $m_3=15\text{ kg}$) are on a frictionless horizontal table (block with mass m_2 is in the middle) and connected to each other via massless ropes. A constant horizontal tension force $T_H=3\text{ N}$ pulls the rope that is only connected to mass m_1 . Find the tension forces in the ropes connecting m_1 to m_2 and in the rope connecting m_2 to m_3 .



Qualitative Analysis

- Redraw the picture provided if it helps you in solving the problem.
- Give names to all known and unknown numerical quantities
- Make reasonable physical assumptions
- Try to make predictions about the solution

Planning/Decision Making

- What physics principle applies here (or principles apply in different parts of the problem if you must divide the problem into sub-problems)?
- Choose the systems that may be helpful in solving for the unknowns (e.g., a single block or all the blocks together etc.).
- Draw a free-body diagram if helpful.

Implementation

Assessment and Reflection

- Does the solution have the right dimensions?
- Does the solution agree with your qualitative assessment?