**Harold’s Physics of Forces with Pully**

**“Cheat Sheet”**

23 April 2021

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| **Incline Plane with a Pully** | | | |
| Physical Setup |  | | |
| Free Body Diagrams |  |  | |
| **G**ivens |  |  | |
| Observations |  |  | |
| **U**nknowns |  |  | |
| **E**quations |  | | |
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|  |  | |
| **S**olve  1) Forces |  |  | |
| 2) Tension |  | | |
| 3) Work-Energy |  | | |
| **S**ubstitute |  | | |
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| **S**ubstitute |  | | |
|  | | |
| Box Your Answers |  |  | |
| Check Your Answers | <https://amesweb.info/Physics/Inclined-Plane-Calculator.aspx> | | |
| Analysis |  | | **Possible sources of error:**   1. The pully really does have friction.   [The pully friction pulls Work (-W) out of the system in the form of heat energy]   1. The pully spins and has rotational energy.   [   1. The string really does have mass.   [   1. Accumulating string mass contributes to vertical . [] 2. Gravity (**g**) varies by altitude and geo location. [9.8 vs. 9.81] 3. Measuring equipment margin of error.   [±0.0001]   1. Human error in measurements. [±0.01] 2. Air resistance as the masses move. |