

Correct Answer: A GPT4o: B. " in the given diagrams, the left pulley system (a) shows a single fixed pulley, while the right pulley system (b) shows a single movable pulley. This means you only need to exert half the force to lift the weight."



In the pulley system, if we pull the black rope in the green arrow downwards direction, how many read sheaves will move? Please select from the following choices:

Equal in both systems;

- None of them: One of them will move:
- Both of them will move: There are three red sheaves that will move

Correct Answer: B GPT4o: C both of them will move. When you pull the black rope in the direction of the green arrow, it will cause the load to lift. Since this is a compound pulley system, both



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In the pulley system, if we pull the black rope in the green arrow upwards direction, which red sheave will move?

- Please select from the following choices:
 - The Left Red Sheave: The Right Red Sheave:
 - None of them will move:
 - Both of them will move:

Correct Answer: A

GPT4o: B the right red sheave. If you pull the black rope in the direction of the green arrow (upwards) on the right side, it will cause the right red sheave to move downwards due to the tension in the rope the left red sheave, along with the load it is holding, will move upwards thus, only the right red sheave will move downward when pulling the rope in the indicated direction

In the pulley system, if we pull the black rope in the green arrow upwards direction in which direction the red sheave will go? Please select from the following choices

> A. Going Rightward; B. Going Leftward: C. Going Unward: D. Going Downward:

Correct Answer: C

GPT4o: D going downward. In this pulley system, if you pull the black rope upwards in the direction of the green arrow, the red sheave will be pulled downward. This is because the pulley redirects the force applied to the rope pulling the rope upwards decreases the length of the rope segment on the right, causing the sheave to move downward to balance the tension in the rope



Pulley System 2

How many sheaves will move if we pull the rope on the right? Please select

from the following choices: Δ 1: B 2 C. 3:



GPT4o: B 2:in the shown pulley system, there are a total of three pulleys/sheaves, two at the top and one at the bottom attached to the load whe you pull the rope on the right, the force is transferred through the system of pulleys the two upper pulleys are fixed, the bottom pulley, attached to the load, will move up or down, depending on whether the rope is pulled or released.



If we pull the blue rope on the right, how many purple sheaves will move? Please select from the following choices:

- A none will move:
- B one of them: C two of them:
- D. All will move: Correct Answer: C

GPT4o: D all will move; in the arrangement shown, all the purple sheaves (pulleys) are interconnected by the blue ropes when you pull the blue rope on the right, it will cause movement in the blue rope, translating to motion in the pulleys through which the rope passes as all the purple sheaves are connected via the blue rope system, pulling the blue rope on the right will cause all moving parts to engage, leading to the motion of all purple sheaves