Name_____ Science Teacher_____ Period_____ Date_____

Target 17 1.

What are three ways a simple machine can make work easier?

* Work = Force x Distance

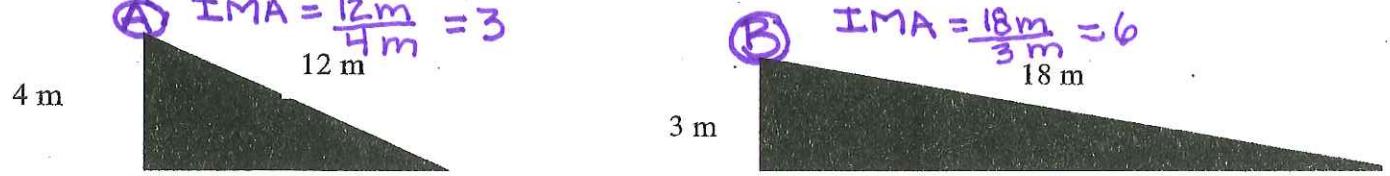
Work can be made easier by 1. increasing the applied Force, ② decreasing the applied force or ③ changing the direction of the applied force. or ④ by Increasing distance

How do you find mechanical advantage of an inclined plane?

(AMA) Actual Mechanical Advantage = $\frac{\text{Output Force}}{\text{Input Force}}$

(IMA) Ideal Mechanical Advantage = $\frac{\text{Length of incline}}{\text{Height of incline}}$

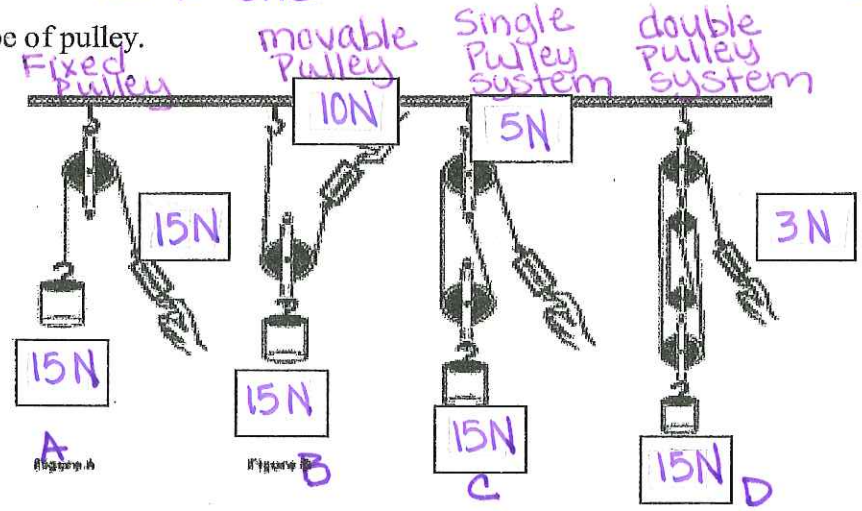
Which of these inclined planes has the greatest mechanical advantage? Why?



Inclined plane B has the greater mechanical advantage because when you take the length and divide it by the height it is greater than the 1st one.

Target 18 2

Label each type of pulley.



How do you find mechanical advantage of a pulley?

Mechanical advantage of a pulley is the output force ÷ input force

* Remember- input force is the force you put in)

$MA = \frac{\text{output force}}{\text{input force}}$

What is the mechanical advantage of each pulley above?

A. = 15N ÷ 15N = 1

B = 15N ÷ 10N = 1.5

C. = 15N ÷ 5N = 3

D. = 15N ÷ 3N = 5

Which pulley will make the work easiest?

Since the double pulley system has the greatest MA. Figure D will make the work seem easiest.

* Note - The Ideal Mechanical Advantage of a pulley – count the rope segments, if the last rope is pulled down then don't count the last rope, if pulled up count it.