

# PULLEYS AND LIFTING - IMPORTANT FORMULAS

V.Ryan © 2000 - 2010

On behalf of The World Association of Technology Teachers

## W.A.T.T.



World Association of Technology Teachers

This exercise can be printed and used by teachers and students. It is recommended that you view the website ([www.technologystudent.com](http://www.technologystudent.com)) before attempting the design sheet .

THESE MATERIALS CAN BE PRINTED AND USED BY TEACHERS AND STUDENTS.  
THEY MUST NOT BE EDITED IN ANY WAY OR PLACED ON ANY OTHER MEDIA INCLUDING WEB SITES AND INTRANETS.  
NOT FOR COMMERCIAL USE.  
THIS WORK IS PROTECTED BY COPYRIGHT LAW.  
IT IS ILLEGAL TO DISPLAY THIS WORK ON ANY WEBSITE/MEDIA STORAGE OTHER THAN [www.technologystudent.com](http://www.technologystudent.com)

# PULLEYS AND LIFTING - IMPORTANT FORMULAS

V.Ryan © 2010 World Association of Technology Teachers

1. What is the definition of Mechanical Advantage?

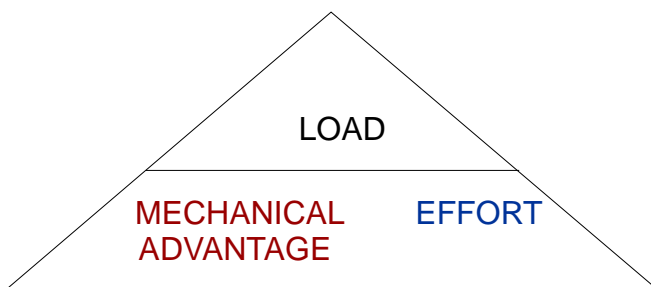
---

---

## FORMULAS RELATING TO MECHANICAL ADVANTAGE

2. Pulley systems rely on the important relationship between load and effort. The formula triangle printed below makes it easier to generate formulas for mechanical advantage, load and effort.

Complete the individual formulas by using the formula triangle.



MECHANICAL  
ADVANTAGE =

LOAD =

EFFORT =

3. What is the definition of Velocity Ratio?

---

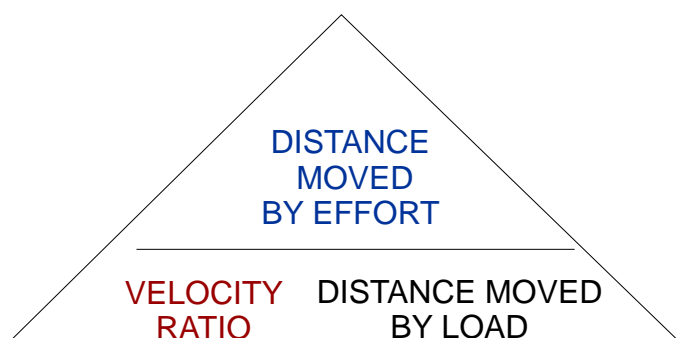
---

## FORMULAS RELATING TO VELOCITY RATIO

4. What is the alternative name/term for Velocity Ratio?

---

5. Using the formula triangle printed below, complete the individual formulas for velocity ratio, distance moved by load and distance moved by effort.



DISTANCE MOVED  
BY LOAD =

VELOCITY RATIO =

DISTANCE MOVED  
BY EFFORT =