



MECHANICAL EQUIVALENT OF HEAT

Guide Questions

40% of the Written Report (Group Report) grade

1. What energy transformation occurs during cranking (i.e. as you turn the cylinder)? What caused the increase in temperature of the cylinder?
2. What is your experimental value of the mechanical equivalent of heat? What is the standard value of the mechanical equivalent of heat? Calculate the percentage error of the experimental value of mechanical equivalent of heat.
3. Identify one major source of error in this experiment and discuss its effect on the measured value of the mechanical equivalent of heat.
4. If you increased the number of crank turns, would this increase the final temperature of the cylinder? Would this increase the calculated value of J ? Why or why not?
5. The standard value of J is 4186 joule/kilocalorie. What does this value imply or say about the work done on and heat absorbed by the cylinder?