

Read 11.4 - 11.5

H.w Extended to today Midnight
(problems with web assign)

office hours Thursday 2:00-3:00
Today 1:30-2:30

make up Exam tonight

7 p.m Here

3 equation sheets

* Group tomorrow *

Final Exam

Friday May 9 8:00-10:00 A.m
HERE

~ Double mid term

Covers all material presented
in class

Clickers → D2L Have Bonus points

class web page all clicker points
for each clicker

makeup Exam

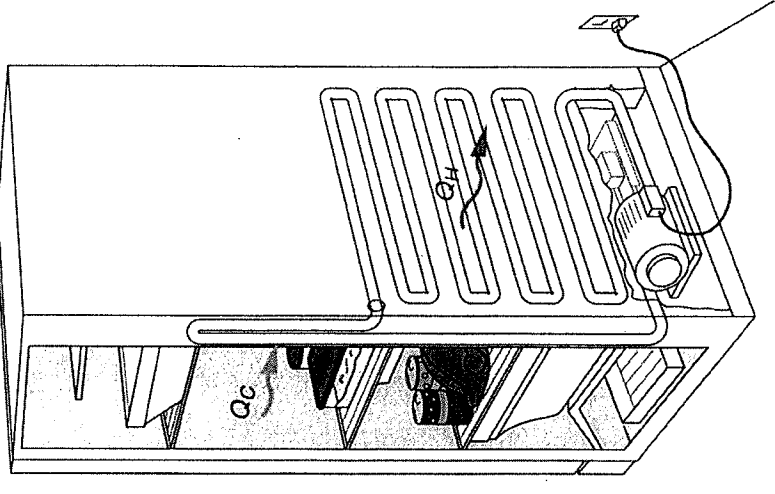
- speed Velocity
- Electrostatic Force
- Kinematic Equations constant acceleration
- current in circuit
- Equivalent resistance
- projectile motion
- magnetic field magnitude / direction
- acceleration
- conservation of Energy
- Scaling problem
- Forces Newton's Laws
- objects in Free Fall
- power in circuit

Interactive Question

Can you cool your house by plugging in the refrigerator, turning it on, and opening the door?

- A) Yes this will work just like an air conditioner.
- B) Yes, this will work but it will be much more expensive than air conditioning.
- C) No, this won't work because the engine will burn out.
- D) No this won't work because the refrigerator outputs more heat than it cools.

Copyright © The McGraw-Hill Companies, Inc. Permission required for reproduction or display.



Problem: A heat pump uses removes 400 J of heat from a low temperature environment by doing 250 J of work in each cycle. How much heat is delivered to a high temperature reservoir per cycle?

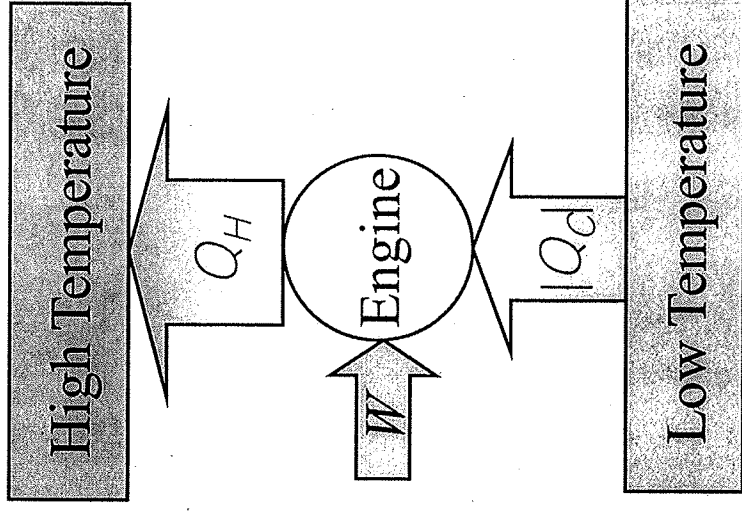
$$Q_c = 400 \text{ J} \quad \text{want } Q_H$$

$$W = 250 \text{ J}$$

$$|Q_H| = |Q_c| + W$$

$$= 400 \text{ J} + 250 \text{ J}$$

$$= \underline{\underline{650 \text{ J}}}$$

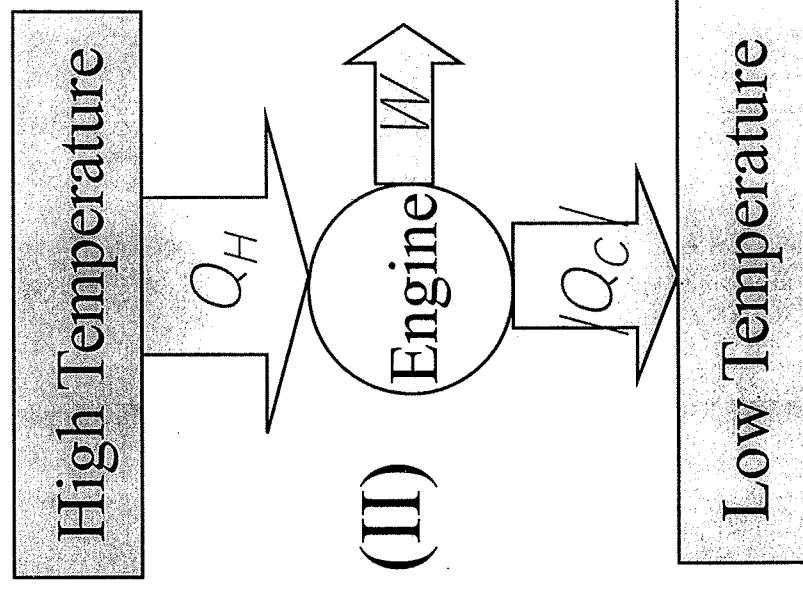
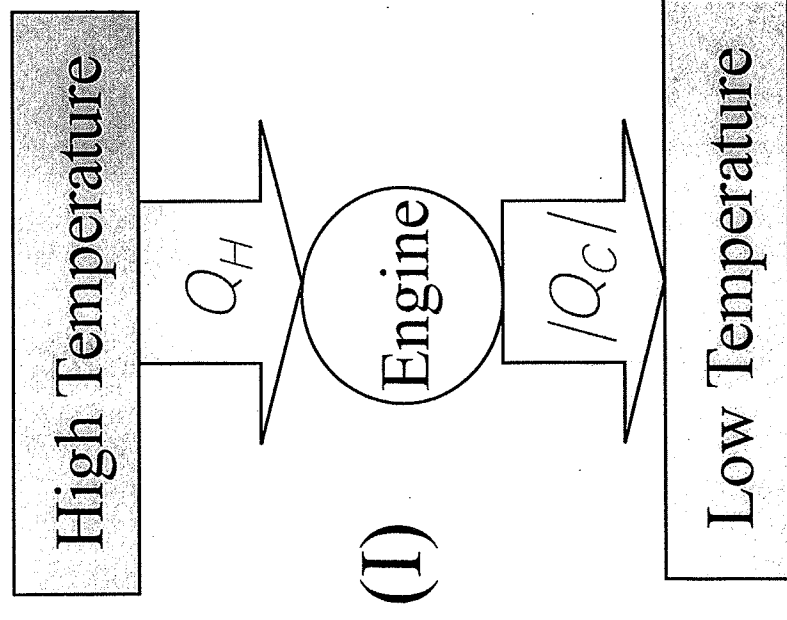


Interactive Question

Which of the following is a reversible process?

- A) A glass vase falls on the floor and shatters.
- B) Ice is taken from the freezer and melts.
- C) Air flows into a chamber that initially contained a vacuum.
- D) None of the above.

Interactive Question



Which process is possible:

- A) I
- B) II
- C) I and II
- D) Neither I nor II

C

Interactive Question

The entropy of the universe

- A) is always decreasing.
- B) is conserved.
- C) is impossible to calculate.
- D) can only increase or remain constant.

Interactive Question

When you clean up your room the order of the room increases. Does this violate the 2nd law of thermodynamics?

- A) Yes, the second law is a general principle by can be violated.
- B) Yes, the second law doesn't apply to things like this.
- C) No, the room only looks more ordered but it really isn't.
- D) No, the order of the room increases, but the disorder of other things increases more.