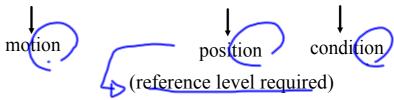
Wednesday, May 29/13 Physics 112/111

- 1. ICA: Power, Efficiency and Energy Conservation (Still to Be Returned)
- 2. Exam Outline: Topics C6 and C7
- 3. Worksheet Wave Equation and More -> HW P4
- 4. Wave Behaviours Reflection, Refraction...
 - HW 2 Be prepared to complete diagrams for refraction cases #1, 2 and 3 tomorrow.

Exam: Outline - Chapter 6 and Chapter 7

- work (scalar quantity) with less
- three cases when work is not done (2)
- energy (scalar quantity) $E / j \sim le s$.
- types of energy: kinetic and potential (gravitational and elastic)



- work-kinetic energy theorem W= AFK
- work-gravitational potential energy theorem W= \(\mathbb{F}_{5} \)
- Hooke's Law applied force and restoring force
 - compression and extension
 - spring constant 7511pe
 - elastic limit
- power (scalar quantity) P = W = F = F = V
- efficiency
- conservation of energy: $E_{ki} + E_{gi} + E_{ei} = E_{kf} + E_{gf} + E_{ef}$



Exam: Outline - Chapter 4 and Chapter 5

- force (vector quantity)
- five examples: gravitational force (weight), applied, normal, force of friction (static and kinetic), tension
- coefficient of friction (static and kinetic) \mathcal{M} $\sim \sim \sim \sim \rightarrow \uparrow$.
- contact/non-contact forces
- FBDs (free body diagram)
- state of equilibrium ($F_{net} = 0 \text{ N}, \mathbf{v} = 0 \text{ m/s or } \mathbf{v} \text{ is uniform}$)
- Newton's Three Laws of Motion

* May need kinematic equations in C5.

of equilibrium (-10)

ton's Three Laws of Motion

1st: $\mathbf{F}_{net} = 0 \text{ N (Chapter 4)}$ 2nd: $\mathbf{F}_{not} = m\mathbf{a}$ (Chapter 5)

(20)

3rd: For every action there is an equal but opposite reaction.

- Atwood's Machine and Fletcher's Trolley LI
- momentum (vector quantity)
- impulse (vector quantity)

Exam: Outline - Chapter 2 and Chapter 3

- 1. physics mc.
- 3. frames of reference: fixed/moving mc
- 4. scalar quantity magnitude only mc
- 5. conventional directions
- 6. vector quantity magnitude and direction MC
- 7. examples of scalar and vector quantities
- 8. graphical addition of vectors: tip-to-tail/parallelogram method mc
- 9. analytical addition of vectors
- 10. Level 1 subtracting vectors perpendicular components
- 11. vocabulary: distance, position, displacement, time, *m* speed, velocity, acceleration, etc.
- 12. symbols and units of physical quantities MC
- 13. types of motion: uniform/uniformly accelerated m
- 14. position-time graphs

7 V + ve / Slows 0 V - ve } speeds 0 ~ ve Jonn. 1, ~ -ve } up.

- 17. checklist for word problems problems.
- 18. motion equations including derivations
- 19. acceleration due to gravity prob.
- 20. freely falling bodies .

Problems: Kinametic equations | x fruly feeling budy.