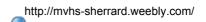
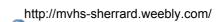
## Thursday, February 5/15 Science 122



- 1. Questions? -> Complex Circuits
- 2. Quiz Circuits -> Friday, Feb. 6/15
- 3. Magnetism
- 4. Electric Charge vs. Magnetic Poles
- 5. Magnetic Domains
- 6. Magnetic Field Lines Notes and Activity TBC
- 7. Magnetic Fields

# Thursday, February 5/15 Physics 122/121



- 1. Return FA Find R Using Perpendicular Components
- 2. Force Problems Involving Components: Type I (Push/Pull)
- 3. Text: C5 Page 174, PP #17
  Page 208, PP #24 and 25
  Page 209, PP #36
- 4. Static Equilibrium
- 5. Type II Suspended Objects

#### Physics 122/121

#### MHR - Chapter 5 - Page 174

- 17. A student pushes a 25 kg lawn mower with a force of 150 N. The handle makes an angle of 35° to the horizontal.
  - (a) Find the vertical and horizontal components of the applied force.
  - (b) Calculate the normal force supporting the lawn mower while it is being pushed.
  - (c) Calculate the net force propelling the mower if a frictional force of 85 N exists.
  - (d) Calculate the horizontal acceleration of the lawn mower. (Remember: Only part of the F<sub>applied</sub> is parallel to the direction of horizontal acceleration.)

- a) 86 N, down 1.2 x 10<sup>2</sup> N, right
- b)  $3.3 \times 10^2 \text{ N}$ , up
- c) 38 N, right
- d)  $1.5 \text{ m/s}^2$ , right

### MHR - Chapter 5 - Page 208

- **24.** A toboggan with a mass of 15 kg is being pulled with an applied force of 45 N at an angle of 40° to the horizontal. What is the acceleration if the force of friction opposing the motion is 28 N?
- **25.** A grocery cart is being pushed with a force of 450 N at an angle of 30.0° to the horizontal. If the mass of the cart and the groceries is 42 kg,
  - (a) Calculate the force of friction if the coefficient of friction is 0.60.
  - (b) Determine the acceleration of the cart.

 $0.43 \text{ m/s}^2$ , right

- a)  $3.8 \times 10^2 \text{ N}$ , left
- b) 0.23 m/s<sup>2</sup>, right

#### MHR - Chapter 5 - Page 209

- **36.** A 45.0 kg box is pulled with a force of 205 N by a rope held at an angle of  $46.5^{\circ}$  to the horizontal. The velocity of the box increases from 1.00 m/s to 1.50 m/s in 2.50 s. Calculate
  - (a) the net force acting horizontally on the box.
  - (b) the frictional force acting on the box.
  - (c) the horizontal component of the applied force.
  - (d) the coefficient of kinetic friction between the box and the floor.

- a) 9.0 N, right
- b) 132 N, left
- c) 141 N, right
- d) 0.451

### Thursday, February 5/15 Science 10

- 1. Weekly Check
- 2. Article Review Indicators 1 Day Late Today
- 3. Assignment Indicator Species Due: Friday, Feb. 6/15
- 4. Ecological Levels
- 5. Classifying Organisms
- 6. Food Chains
- 7. Energy Movement in Ecosystems
- 8. Photosynthesis
- 9. Trophic Levels To Be Continued
- 10. Food Web
- 11. Textbook: Read Page 10-13
  Page 13 Understanding Concepts #1, 2, 4 a-b
- 12. Textbook: Page 23 Understanding Concepts, #1, 2, 3, 4, 5