TUESDAY: Physics Lab

NO IS Tuesday

Exam Review - Problem

1. Textbook: Page 646, #11-14
   Textbook: Page 655, #20-24
   Textbook: Page 678, 42-45, 47, 50
   Textbook: Page 696, #4-10
              #4. 4.00 V (text: 40.0 V)
              #8. 75 s (text: 57 s)
   Textbook: Page 708, #16-20
   Textbook: Page 714, #21-26
   Textbook: Page 719, #27-31
   Textbook: Page 724, #32-35
   Textbook: Page 728, #36-37
              Page 749, #33-34
   Textbook: Page 737, #40-42
              Page 744, #46-50

Exam Review - Problem

Concept: _____

Car A (2.45 x 10^3 kg) is traveling due south and car B (1.68 x 10^3 kg) is traveling due west. They reach the same intersection at the same time and collide. The cars lock together and move off at 57.9 km/h 53.1° S of W. What was the velocity of each car before they collided?

Physics 122/121 - Final Exam

Unit 1
-> force problems
    - push/pull
    - suspended objects
    - incline plane
-> static torque
    - horizontal (L1)
    - involving an angle (L2)
-> relative velocity
-> collisions
    - 1 D
      - simple
      - elastic/inelastic
    - 2D

Unit 2
-> circular motion
    - horizontal circular motion (L2)
    - vertical circular motion (L1)
-> Law of Universal Gravitation and planetary motion
-> projectiles
    - horizontal
    - fired at an angle
      - no trig (L2)
      - trig (L1)
-> SHM
    - pendulum
    - mass on a spring

Unit 3
-> electrostatics
    - electrical charges
    - transfer of charge between identical objects
    - electric force - Coulomb's Law
            - 2 charges
            - 3 charges
                - in a line
                - involves angle(s)
    - electric fields
         - diagrams
         - electric field strength
    - electric potential energy
    - electric potential difference

-> electric current
    - conventional current/electron flow
    - circuit symbols
    - open/closed circuits
    - ammeters/voltmeters
    - resistance in a wire
    - Ohm's Law
    - circuits
      - series
      - parallel
      - complex/combination
      - VIR chart
    - power

multiple choice = 30
problems = 11

☆

Practice - Exam.

1. a) 11.0 s
   b) 595 m
   c) 84.3 m/s
   d) 1.86×10^3 m

2. 90.7 N, 42.0° N of E.

3. Omit. rel. velocity.

4. a) 413 N
   b) 1.73×10^4 m/s
   c) 828 N ← weight
      $\vec{W} = -828$ N.

$\left. \dfrac{7.83 N}{Kg} = 7.83 \dfrac{m}{S^2} \right\} g$

5. $F_f = 153$ N, $F_B = 177$ N
   $\vec{F_f} = 153$ N, up. $\vec{F_B} = 177$ N, up.

6.

	V (V)	I (A)	R (Ω)
1	8.10	2.70	3 ←
2	6.90	1.73	4 ←
3	6.90	0.970	7 ←
T	15 V	2.70	5.55

7. $\vec{a} = -7.8$ m/s²

8. $\vec{V_B}' = 0.26$ m/s, 28° N of W

9. omit. $\vec{A} = 27$ N, 32.0° W horizontal
   $\vec{B} = 67$ N 70.0° W horizontal.

10. 3.9×10^3 N, up ramp