

Wednesday, January 7/15
Physics 112/111

Task Sheet

1. Investigation 6A - Force and Spring Extension (Page 255)
- Due: Dec. 15/14

2. Explosion Lab - Pass in Friday for Second Marking

3. Questions? -> Textbook: Page 287, PP #1-7
Page 329, PFU #21-23, 25
Page 332, PFU #38, 39, 54

} C7.

Worksheet => Extra Energy Conservation

4. Assessment - C7 -> ICA (2 problems) - Friday

5. Unit 4 - Waves - Types of Waves (Continue P1 and P3)

- Parts of Waves
- Physical Quantities
- Wave Behaviours
 - > Reflection
 - > Diffraction
 - > Refraction

Formative Assessment - Find \vec{R} AnalyticallyWednesday - January 7/15

Two displacement vectors are 37.0 m [S] and 22.6 m [E]. Find the resultant displacement analytically.

$$\vec{R} = 43.4 \text{ m}, 58.6^\circ \text{ S of E}$$
$$31.4^\circ \text{ E of S}$$

Physics 112/111 - Final Exam

C2 and C3

- > SI base/derived units and prefixes
- > significant digits
- > rearranging equations
- > uniform/uniformly accelerated motion
- > types of quantities (scalar and vector)
- > **resultant**
 - minimum/maximum values
 - **tip to tail**/parallelogram methods
 - graphical/**analytical methods**
- > velocity-time graphs
 - time or velocity from the graph
 - maximum velocity/speed
 - acceleration/average acceleration
 - displacement/distance
 - time stopped/reversed direction
- > comparison of velocity and acceleration directions to determine if an object speeds up or slows down
- > **kinematic problems**
- > **freely falling body problems** } L1 & L2

C4

- > types of forces
- > FBDs
- > **force problems (constant velocity)**/rest

C5

- > Newton's Three Laws of Motion
 - inertia
 - net force and acceleration
 - action/reaction forces
- > **force problems (acceleration)**
- > momentum
- > impulse
- > **impulse-momentum theorem**
- > (Atwood's machine/Fletcher's trolley)

C6

- > work (done, not done, positive/negative)
- > **types of energy (kinetic, gravitational, elastic)**
- > reference line/zero line
- > Hooke's Law
- > (force vs extension graph (spring constant and elastic energy))
- > **work-energy theorems**
- > (power)
- > (efficiency)

C7

- > **energy conservation** } L1 & L2

C8 and C9

- > pulse/wave
- > types of waves
- > parts of a wave
- > physical quantities - measures of a wave
- > **wave problems**
- > wave behaviors
 - (boundary behaviors)
 - reflection
 - diffraction
 - refraction
 - index of refraction
 - **speed of light in a medium**
 - **Snell's law**
 - three cases
 - **critical angle**
 - **total internal reflection**

multiple choice = 35
problems = 12