Physics 112

Thursday, March 31/16

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Reports

1. Assignment: U1-S3 (Mathematical Analysis)

2. Test - Unit 1 -> Wednesday, April 6/16
   See the outline on the next two pages.

3. Unit 2 - Dynamics
   - Section 1: Types of Forces and FBD's
   - Dynamics
   - Force, Net Force
   - Five Specific Forces

4. Worksheet - Practice Problems (PP) - C4 - Page 137: 1-4

Topics: Test Unit 1

1. kinematics
2. two types of physical quantities:
   (i) scalar quantity - has magnitude only
   - examples of scalar quantities
   (ii) vector quantity - has magnitude and direction
   - examples of vector quantities
   - know which directions are positive and which are negative by convention
3. arrows are used to represent vector quantities
4. definition of resultant
5. two methods used to add vector quantities:
   (i) tip-to-tail method
   (ii) parallelogram method
6. use rubric to determine a resultant graphically
7. use rubric to determine a resultant analytically
8. two types of frames of reference:
   (i) stationary/fixed
   (ii) moving
9. motion vocabulary and definitions
10. use signs of velocity and acceleration to describe an object's motion, etc
11. two types of motion
    (i) uniform
    (ii) uniformly accelerated motion

Topics: Test Unit 1 (Continued)

12. position-time graphs - interpret graphs
    - identify type of motion
    - slope = velocity
    - determine if/when an object changes direction
13. velocity-time graphs - interpret graphs
    - identify type of motion
    - slope = acceleration
    - area -> distance and displacement
    - be able to calculate average speed, average velocity and average acceleration
    - identify if/when an object changes direction
14. word problems - follow checklist to obtain full value
    - uniform motion - 1 formula
    - uniformly accelerated motion - 4 formulas
    - quadratic formula
15. acceleration due to gravity - influenced by mass of planet and distance from planet
    - symbol -> $\vec{g}$
    - on Earth $\vec{g} = -9.80\ m/s^2$
    - assuming no air resistance when working with freely falling bodies
    - interpret ball toss graphs

Science 122

Thursday, March 31/16

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Reports

1. Check -> Worksheet: Concave Mirror - Ray Diagrams
2. Convex Mirrors and Ray Diagrams - Continue

   -> Quiz - Tuesday -> Ray Diagrams for Spherical Mirrors
3. Mirror Equation

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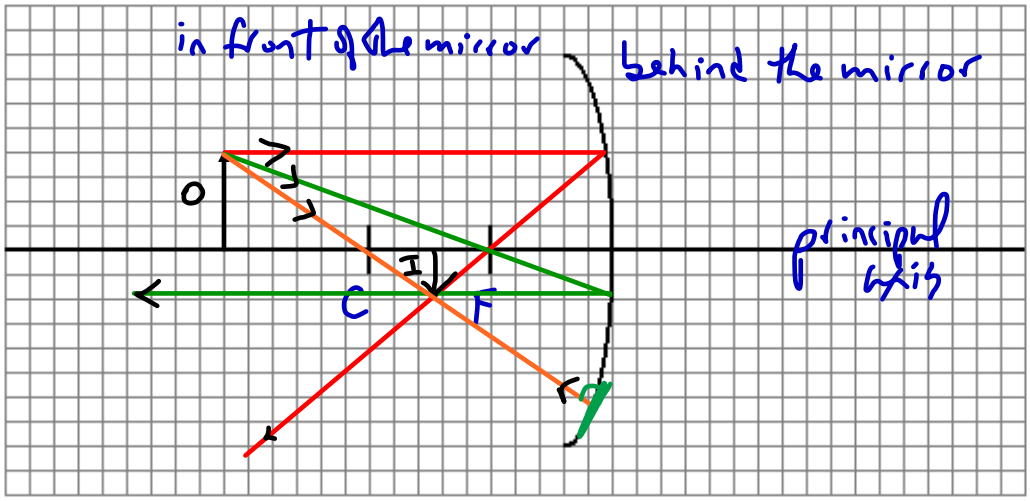
4. Magnification Equation
5. Worksheet: Red Text - Spherical Mirrors
6. Lenses
7. Convex Lens
8. Images Formed by Convex Lenses
9. Worksheet: Convex Lens - Ray Diagrams
10. Concave Lenses and The Images They Form
11. Lens Equation, Magnification and Sign Conventions

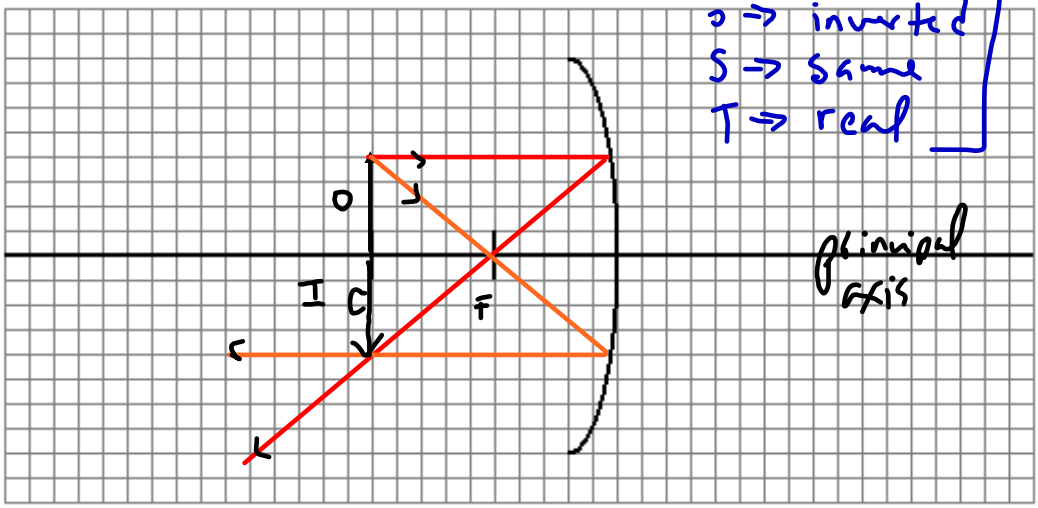
Concave Mirror - Ray Diagrams

INCLUDE POST

1. Object Beyond C

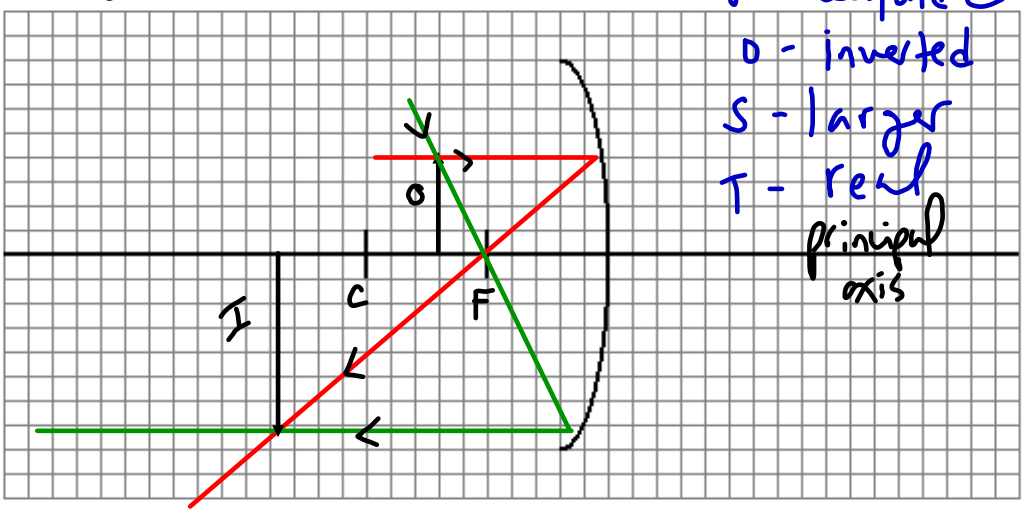


2. Object At C



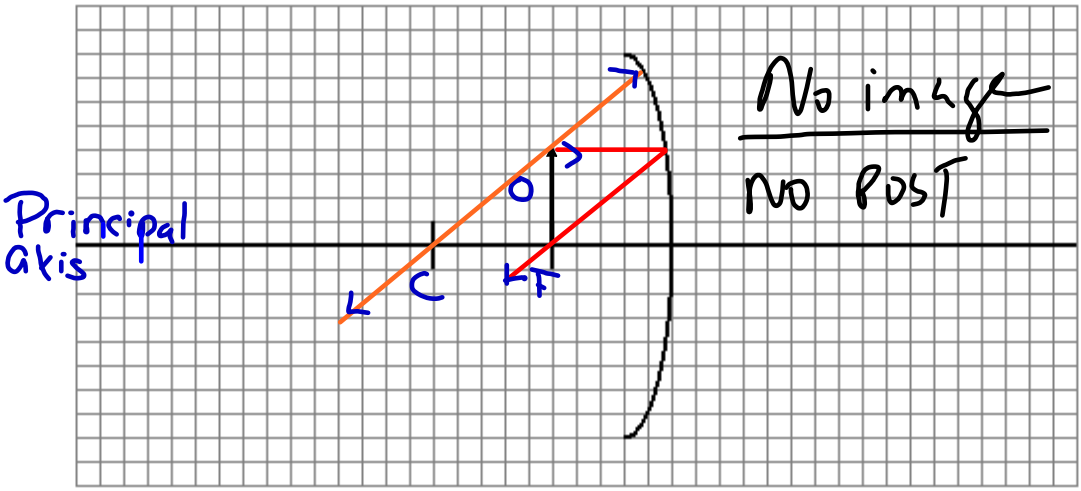
P → At C
O → inverted
S → same
T → real

3. Object Between C and F

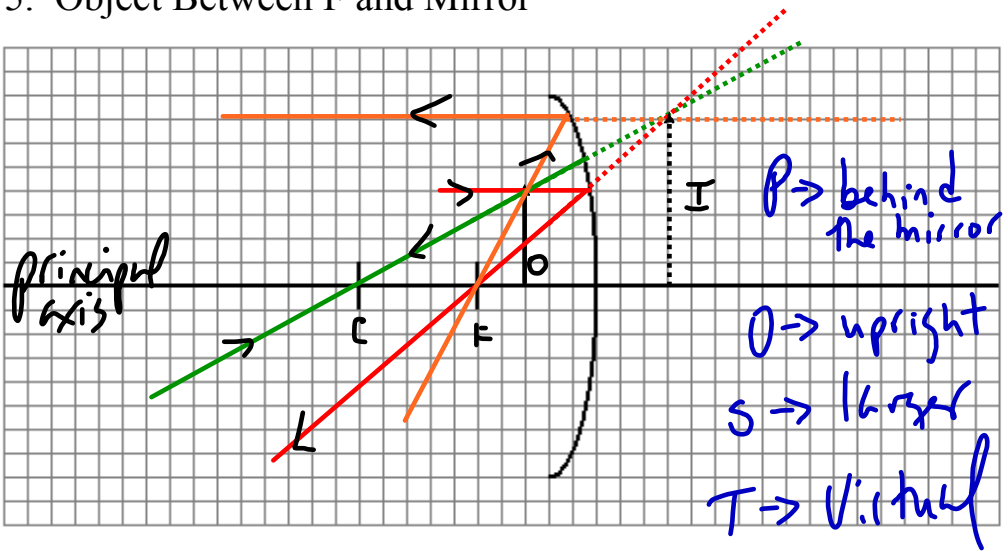


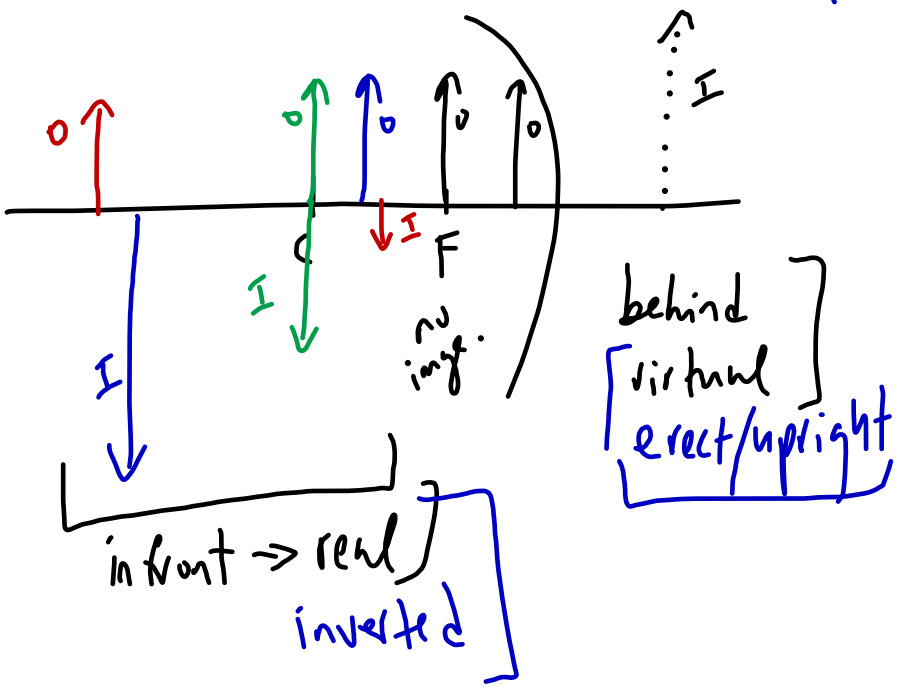
P - beyond C
O - inverted
S - larger
T - real

4. Object At F



5. Object Between F and Mirror





Science 10

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Thursday, March 31/16

Reports

1. Lab - Types of Reactions, Gas Collection and More
   - 3 Days Late
2. Check -> Worksheet: Page 349 -> #6 -> Do e-j
3. Defining Equations - Continue
4. Area Calculations
5. Experiment: Measurement and Significant Digits
   - To Be Continued
   - Each person submits a lab sheet for marking.

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6. Rearranging Equations
7. Metric Conversions

Physics 122

Thursday, March 31/16

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Reports

1. Check -> Worksheets - Relative Velocity Problems
   Worksheet: 1D Collisions
   Worksheet - Collisions: Elastic and Inelastic

2. 2D Collisions

3. Worksheet - 2D Collisions
   Worksheet - Physics 30 Worksheet #4

4. Assignment: U1-S3& 4 -> Tuesday, April 5/16

5. Test - Unit 1 -> Friday, April 8/16

6. Experiment 10.2 - Torques (Page 67)
   Experiment 9.1 - Conservation of Momentum (Page 55)

Physics Labs

Physics 112

Physics 122

_____ /10

Title - _____

Date Due - _____

Recorder - _____

Team Members - _____

_____

_____

_____

_____

Title - Experiment 10.2 - Torques (Page 67)

Date Due - _____

Recorder - _____

Team Members - _____

_____

Cover

Purpose - (1)

Materials - 2 retort stands (1)
- 2 right-angled clamps
- 1 support rod
- 1 meter stick
- 3 meter-stick clamps
- 2 spring scales (5 N capacity) * zero
- 500 g mass

Procedure - Refer to page 68 in the "Physics" lab manual. (1)

Observations and Data - Complete Table 1 (9) and 2 (6).

Analysis - Answer #1 (3)

#2 (1)

#3 show three calculations (3)

- Add absolute value signs to numerator.

#4 (2)

#5 (2)

Total = /29 -> /10

Title - Experiment 9.1 - Conservation of Momentum (Page 55)

Date Due - _____

Cover

Recorder - _____

Team Members - _____

_____

Purpose - (1)

Materials - (1)

Procedure - Refer to page 55 in the "Physics" lab manual. (1)

Observations and Data - Complete Table 1. (3)

Analysis - Answer #1 (2)

#2 Labeled sheet. (5)

#3 (2)

#4 (1)

Total = /16 -> /10