

Test 6 Study Guide: Lectures 21-24

General topics:

- Interactions of light with matter
- Ray model of light, reflection off flat mirrors
- Refraction, total internal reflection
- Linear polarization of light, linear polarizing filters
- Interference and Diffraction
 - Path length differences
 - Double slit
 - Single Slit

You should also brush up on how to find different angles in triangles – see discussion, homework, and practice problems for examples to try.

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Be prepared to deal with the following situations:

- Relate how an object absorbs, reflects, or transmits light to what colors are or aren't visible
- Use the law of reflection to trace the path of a ray bouncing off different-angled surfaces
- Identify how changing wave speed causes a ray to bend when it enters a new medium
- Relate indices of refraction to the angle a ray travels in/out of an interface
- Solve for the path of a ray through a series of two refractions/reflections
- Identify how changing features in a row of polarizers changes the light intensity
- Calculate the intensity of unpolarized light after traveling through multiple polarizers
- Identify how interference from path length differences creates certain bright or dark spots on a screen
- Find the location of a bright spot or a dark spot on a screen, caused by shining light through a single or double slit
- Identify important features of the interference or diffraction patterns formed by shining light through a single or double slit