PH 122: Assignment #10 Optics, Part I

Details
This assignment will be due in class on Wednesday, April 29.

• When you answer questions, please show your reasoning.
• When you answer multiple-choice questions, please show all of your work.
• Please answer problems in three steps, “Prepare”, “Solve” and “Assess”

Problems
Chapter 17: Wave Optics
Topic #1: Diffraction Patterns
Questions: 12
Problems: 14, 18, 30, 54, 68, 72
Topic #2: Thin-Film Interference
Questions: 16
Problems: 22, 24b

Chapter 18: Ray Optics
Topic #3: Refraction, Total Internal Reflection & Apparent Depth
Questions: 13
Problems: 12, 18, 54, 58, 60

Grading
We will grade 2 items.
If we grade a question, we'll give it 0, 1 or 2 points. We’ll assign points as follows:
2 = essentially all correct; 1 = partially correct; 0 = mostly incorrect.

If we grade a problem, we'll give it 0, 1 or 2 points. We'll give 1 point for “Prepare” and 1 point for “Solve”. The “Assess” step will work as a fail safe. If you didn't get the solution quite right but your “Assess” step was thoughtful and well reasoned, you can still get the full 2 points.
We'll assign 1 “Completeness Point” - with “Completeness” broadly interpreted. You need to make a serious effort on all the problems, do legible and complete work throughout, and staple your pages together.

Additional Practice
If you want additional practice, you can try the following problems:

Chapter 17:
Problems: 17, 19, 25, 45, 53, 59

Chapter 18:
Problems: 9, 15, 17