

Honors Physics Exam on Light Form D – H

Name _____ Per ____

This exam is worth 75 points. You may use your Notes, PowerPoint, or Text on this exam but NO help from human beings! You MUST HAND WRITE THESE EXAMS in INK!! NO PRINTED or PENCIL PAPERS WILL BE ACCEPTED! EXPLAIN IN COMPLETE SENTENCES AND GIVE EXAMPLES! MATH CALCULATIONS MUST SHOW THE HUP, TWO, THREE, FOUR.

1. Diagram and explain the *Photoelectric Effect*, and give a practical example of its use.
2. Illustrate and explain what causes the *Seasons*.
3. Illustrate the FIVE cases of *OBJECTS* and *IMAGES* in the *DOUBLE CONVEX LENS*.
4. Explain how the LINE SPECTRA of stars is formed and what TWO things do we learn from the *Line Spectra of Elements* in the stars.
5. Diagram a *microscope* and show how the object produces its images.
6. Show with diagrams how *Primary* and *Secondary Rainbows* are formed.
7. Illustrate and tell why we have *Blue Skies* and *Red Sunsets*.
8. Diagram and explain how *Roemer* measured the *Speed of Light* using the satellites of Jupiter.
9. Define and illustrate these terms: *Rectilinear Propagation*, *Reflection*, *Refraction*, *Interference*, *Diffraction*.
10. Illustrate and explain FIVE sources of light.
11. Define: *Luminous*, *Illuminated*, *Translucent*, *Opaque*, and *Transparent*.
12. Diagram how a *mirage* is formed.
13. Diagram and explain us with how the *LASER* works. Give two practical uses for it.

SHOW YOUR METHOD OF SOLUTION TO THESE PROBLEMS, (The 1, 2, 3, 4).

14. An object 10 cm high is placed 40 cm from a *concave mirror*, focal length 10 cm. Calculate a) the location of the image, and b) the height of the image.
15. Equal *illumination* is caused by a 20 cd source at 32 cm and an unknown light at 44 cm. Calculate the intensity of the unknown.

When finished, STAPLE this exam onto your papers and turn it in on the due date.