

Your Name: _____ Your T-Square ID: _____

- **You must show all work to receive full credit.** Correct answers with no work shown will receive minimal partial credit, while incorrect answers with correct work shown will receive generous partial credit. Illegible answers are wrong answers.
- **Integrity:** By taking this quiz, you pledge that this is your work and you have neither given nor received inappropriate help during the taking of this quiz in compliance with the Academic Honor Code of Georgia Tech.
- **Academic Misconduct:** Academic misconduct will not be tolerated. You are to uphold the honor and integrity bestowed upon you by the Georgia Institute of Technology.
 - Keep your eyes on your own paper.
 - Do your best to prevent anyone else from seeing your work.
 - Do NOT communicate with anyone other than a proctor for ANY reason in ANY language in ANY manner.
 - Do NOT share ANYTHING during the quiz. (This includes no sharing of pencils, paper, erasers or calculators).
 - Do not use notes or books, etc during the quiz.

Problem	Points	Lost	Gained	Running Total	Grader
1	5				
2	8				
3	5				
4	5				
5	5				
6	5				
7	5				
Total:	38				

1. (5 points) What are the benefits of using a pinhole as your optical system? What are the benefits that arise from using a lens (or system of lenses) instead? (In other words, what disadvantages does a pinhole system have that using a lens alleviates?)

2. (8 points) For each of the following multiple choice questions, circle the best answer:
 - As the focal length of a lens increases, the field of view (FOV)
 - a. Gets larger (wider)
 - b. Gets smaller (narrower)

 - As the shutter speed gets slower (shutter stays open longer), the exposure:
 - a. Goes up (brighter)
 - b. Goes down (darker)

 - As the shutter speed gets slower (shutter stays open longer), motion blur:
 - a. Becomes more noticeable
 - b. Becomes less noticeable

 - As the aperture number goes up (gets bigger, e.g. $f/2$ to $f/8$) the area of the aperture:
 - a. Gets larger (more light in)
 - b. Gets smaller (less light in)

 - The smaller the aperture area:
 - a. The smaller the depth of focus
 - b. The larger the depth of focus

 - CCD sensors are read:
 - a. One line at a time
 - b. One photosite at a time

 - CMOS sensors are read:
 - a. One line at a time
 - b. One photosite at a time

 - a BAYER Filter
 - a. Allows cameras to differentiate color information
 - b. Has more green sites than red and blue sites
 - c. Requires demosaicing
 - d. All of the above

