Exam 1 Practice

Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.

1. Most of the focusing power of the eye occurs in
   a. the iris.  
   b. the cornea.  
   c. the lens.  
   d. the optic nerve.  
   e. the ciliary muscles.

2. Suppose Weber’s law holds for the perception of pitch. If a subject can just reliably discriminate a 500 Hz tone from a 504 Hz tone, then he/she should just barely tell the difference between 750 Hz and
   a. 752 Hz  
   b. 754 Hz  
   c. 756 Hz  
   d. 758 Hz

3. The cost of many rods converging to few ganglion cells is:
   a. poorer color vision  
   b. poorer spatial resolution  
   c. poorer light sensitivity  
   d. poorer frequency discrimination

4. After adapting to a vertically oriented gratings, the
   a. threshold to horizontal gratings increases.  
   b. sensitivity to horizontal gratings increases.  
   c. threshold to vertical gratings increases.  
   d. sensitivity to vertical gratings increases.

5. In the schematic of the neural circuit below, the intensity profile of a stimulus (from left to right) that would most excite this neuron is:
   ![Neural Circuit Diagram]
   a. [0, 1, 0]  
   b. [1, 1, 1]  
   c. [1, 0, 1]  
   d. [0, 0, 0]

Short Answer

6. The perception of brightness follows Weber’s law. Can this explain why we can’t see the stars during the day? Explain why or why not.
Exam 1 Practice
Answer Section

MULTIPLE CHOICE

1. ANS: B
2. ANS: C
3. ANS: B
4. ANS: C
5. ANS: A

SHORT ANSWER

6. ANS:
Yes it can. The stars are always there, but with a dark background at night they are above detection threshold. During the day, according to Weber’s law, the difference threshold is greater - greater than the intensity of the stars so they’re below threshold.
B 1.

C 2.

B 3.

C 4.

A 5.