

## Exercises 1: Systems Neuroscience

Which answer(s) is/are correct?

Zero, one or more answers are possible.

- 1) In the retina, there are no cone photoreceptors in:
  - the center of the fovea
  - the nasal part of the retina
  - the blind spot
  - the temporal part retina
  
- 2) Which statement(s) is/are correct:
  - the density of cone photoreceptors decreases from the center to the retinal periphery
  - rods are less light sensitive than cones
  - rods are less numerous than cones in peripheral retina
  - some women are tetrachromats
  
- 3) Ganglion cell receptive fields are
  - selective for the direction of motion
  - elongated
  - larger in the fovea than in retinal periphery
  - larger than the receptive field of single cones
  
- 4) The axons of one eye's retinal ganglion cells
  - do not carry action potentials
  - make up this eye's optic nerve
  - always cross to the contralateral hemisphere
  - terminate only on simple cells in the primary visual cortex
  
- 5) Which of the following statements is(are) correct?
  - LGN receptive fields resemble those of ganglion cells
  - The LGN is made of Magno-, Parvo- and Konio- layers
  - The LGN projects to the contralateral primary visual cortex
  - The LGN is retinotopically organized
  
- 6) Primate V1 is
  - retinotopically organized
  - organized in direction of motion columns
  - organized in spatial frequency columns
  - made of 6 layers
  
- 7) Cortical magnification means
  - that the cortical representation of the foveal region is bilateral

- O that the cortical representation of the peripheral retina is larger than that of the foveal region
- O that the proportion of tissue analyzing foveal signals is higher in the cortex than in the retina
- O that the representation of the foveal region increases in size within extrastriate cortex