20. Electron Waves: Summary

For each of the statements below, answer the accompanying questions to summarize the structure of an electron cloud in a hydrogen atom.

1) When bound to a nucleus, electrons are delocalized energy that behave as waves.
   What does it mean to be delocalized?

2) Three-dimensional electron clouds are made up of energy.
   How is an electron cloud different than a classical cloud you see in the sky?

3) Energy clouds form specific physical shapes based on their energy
   How does the energy of an electron cloud affect the number of radial loops and nodal planes?

4) Electron cloud shapes and energies are defined by a set of four quantum numbers.
   What are the four quantum numbers, and what does each one represent in the electron cloud?