1. A survey of students in a large Introductory Statistics class asked about their birth order (1 = oldest or only child) and which faculty of the university they were enrolled in. The data are available in the Birth\_Order file on Moodle.
   1. Suppose we select a student at random from this class, what is the probability we select a Human Ecology student?

.192

* 1. Suppose we select a student at random from this class, what is the probability that we select a first-born student?

.506

* 1. Suppose we select a student at random from this class, what is the probability that the person is first-born and a Human Ecology student?

.067

* 1. Suppose we select a student at random from this class, what is the probability that the person is first-born or a Human Ecology student?

.632

* 1. Suppose we select a student at random from this class, what is the probability that the person is an Arts and Sciences student who is a second child (or more)?

.103

* 1. Among the Arts and Sciences students, what is the probability that a student is a second child (or more)?

.403

* 1. Among second children (or more), what is the probability that the student is enrolled in the Arts and Sciences?

.209

* 1. What is the probability that a first or only child is enrolled in the Agriculture faculty?

.460

* 1. What is the probability that an Agriculture student is a first or only child?

.559

* 1. Are enrolling in Agriculture and Human Ecology disjoint? Explain.
  2. Are enrolling in Agriculture and Human Ecology independent? Explain.
  3. Are being first-born and enrolling in Human Ecology disjoint? Explain.
  4. Are being first-born and enrolling in Human Ecology independent? Explain

1. A company manufacturing electronic components for home entertainment systems buys electrical connectors from three suppliers. The company prefers to use supplier A because only 1% of those connectors prove to be defective, but supplier A can deliver only 70% of the connectors needed. The company also must purchase connectors from two other suppliers: 20% from supplier B and the rest from supplier C. The rates of defective connectors from B and C are 2% and 4%, respectively. You buy one of these components, and when you try to use it you find that the connector is defective. What is the probability that your component came from supplier A?