
Section II—Part A**Question One**

- (a) In the undergraduate program, just less than half of the students are female. In the master's program a smaller proportion are female (just over 40%), and in the doctoral program an even smaller proportion (around 35%) are female.
- (b) No. It's possible that the number of students in the master's program is greater than in the doctoral program, resulting in a greater number of males in the master's program than in the doctoral program, even though the *proportion* of males is greater in the doctoral program.
- (c) No. Since it is possible for a student to be enrolled in the doctoral program and to be female, the two events are not mutually exclusive.
- (d) No. If a student is selected at random from the doctoral program, it is less likely that the student will be female than if the student were selected at random from the university as a whole. The two given events are therefore not independent.