

This quiz covers material from section 6.3. Show your work. It is acceptable if you set up but do not compute the answers.

**1.** (*2 points*) A class of students contains twelve freshmen, fifteen sophomores, three juniors, and one senior. A team needs to be formed that has one student of each year. How many ways are there of doing this?

**2.** (*2 points*) A Presidential candidate is campaigning across the nation in preparation for the upcoming primary election. She has seven days and has to choose one of the fifty states to visit each day. How many possible itineraries are there if,

**a.** (*1 pt*) She can visit any state more than once?

**b.** (*1 pt*) She can only visit each state once during her trip?

**3.** (*4 points*) The serial number on dollar bills consists of eight digits (0–9) and two letters (A–Z). How many serial numbers are possible if,

**a.** (*1 pt*) Any combination is allowed?

**b.** (*1 pt*) Repeats are not allowed?

**c.** (*2 pts*) Repeats are not allowed and the last letter must be a Z?