

This quiz covers material from section 8.4.

1. (*4 points*) Suppose that 20% of the University's classrooms are in violation of the fire code. The fire marshall decides to randomly select 8 classrooms for inspection. What is the probability that

- a. (*1 pt*) none of the classrooms are in violation of the fire code?

- b. (*1 pt*) only one of the classrooms is in violation of the fire code?

- c. (*2 pts*) at least three of the classrooms are in violation of the fire code?

2. (*2 points*) Suppose that 70% of homeowners in a given township cut their lawns with push mowers (as opposed to riding mowers or professional lawn care). From a sample of 100 homeowners, what is the probability that exactly 75 of them cut their lawns with push mowers?

3. (*2 points*) 75% of students have experienced problems with crime on campus. From a sample of 10 students

a. (*1 pt*) what is the probability that at least 8 of them have experienced crime-related problems on campus?

b. (*1 pt*) what is the expected number of students who have experienced problems with crime on campus?