STAT 270 Understand the models of Ch 3?

Test yourself on identifying models for particular situations? Which model is best for the probabilities for each of the random variables described below? (Answers on next page).

1. Let X= Number of vehicle accidents involving cell phone use during the month of February.
2. Let X= Number of games won by team A against team B during 4 meetings in a season.
3. Let X= Number of games in a row won by team A before team B finally won its first game against A.
4. Tickets numbered 1,2, ...10 represent a sequence of ten days when a booth must be attended at a trade show. Two workers (A,B) each draw 5 tickets at random. Let X be the number of odd days that worker A is assigned.
5. An office of 25 employees uses a random draw of names each day to see who is sent for coffee and donuts. Let X be the number of days of this procedure before Mr W has been assigned the task 10 times.
6. An urn contains 2 white balls and 1 black ball. A fraternity requires its new recruits to select a ball from the urn in order to determine the initiation procedure. Each recruit faces the same urn with the same mix of balls. Of ten recruits, let X be the number who receive the black ball initiation.
7. Let X be the number of semis that arrive at a vehicle inspection station during the lunch hour.
8. Let X be the systolic blood pressure for individuals undergoing an annual health check by their family physician.

1. Poisson
2. Binomial
3. Geometric (special case of Negative Binomial)
4. Hypergeometric
5. Negative Binomial
6. Binomial
7. Poisson
8. None of the above! Probably a continuous random variable such as Gamma ....