

PROB STAT HONORS

Name _____

7.5 – GEOMETRIC RANDOM VARIABLES

You are one space short of winning a child's board game and must roll a 1 on a die to claim victory. Find the probability that...

1. ...you must roll the die exactly once in order to claim victory.
2. ...you must roll the die exactly three times in order to claim victory.
3. ...you must roll the die fewer than five times in order to claim victory.

A basketball player has made 80% of his foul shots during the season. Assuming the shots are independent, find the probability that...

4. ...misses for the first time on his fifth attempt.
5. ...makes his first basket on his fourth shot.

Only 4% of people have Type AB blood.

6. On average, how many donors must be checked to find someone with Type AB blood?
7. What's the standard deviation of the number of donors that must be checked to find someone with Type AB blood?

About 8% of males are colorblind. A researcher needs some colorblind subjects for an experiment and begins checking potential subjects.

8. On average, how many men should the researcher expect to check to find one who is colorblind?
9. What's the standard deviation of the number of men that must be checked to find one who is colorblind?