AP Stats
Chap 14 Name _____ Pd _____

The Birthday Problem

Using a regular calendar year of 365 days, determine the probability that at least two people in a room of ten will have the same birthday.

What will the probability be if the number of people in the room increases to 20?

What is the probability for all the people (including Mr. Smith) in the classroom today?

What is the minimum number of people needed to statistically guarantee at least a 50% chance of at least two people having the same birthday? What is the minimum number of people needed to guarantee at least a 90% chance?

Although Barack Obama is the 44th President of the United States, he's only the 43rd *different* person to hold the office; Grover Cleveland served two non-consecutive terms in the late 1800s. Of the 43 different Chief Executives, two of them – Presidents Polk and Harding – shared a birthday, November 2. Is this what you would statistically expect from a group of 43 people, or is there something very strange with these men?