AP Statistics

Name: ____________________________

Roll until "doubles"

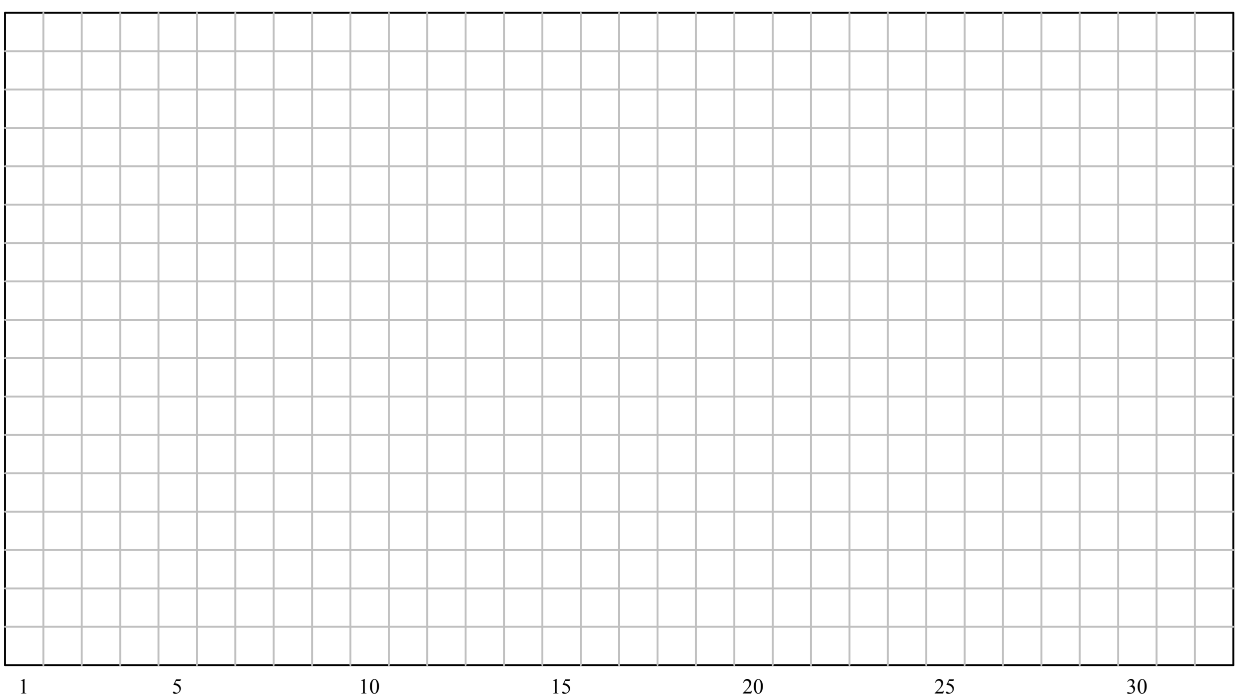
A game of chance is played in which two dice are rolled until "doubles" appear. A trial consists of a sequence of rolls terminating with a roll of "doubles". This can be simulated on the TI 83 or TI 84 calculator using the randInt(1,6,2) command. This will select two integers at random from 1 to 6 inclusively.

For example, if your first trial was {2, 3}, {3, 5}, {6, 2}, and {4, 4}, you rolled doubles on the 4^{th} roll. So X=4.

Conduct several trials of the game.

Trial	# Rolls until doubles		Trial	# Rolls until doubles		Trial	# Rolls until doubles		Trial	# Rolls until doubles
1			6			11			16	
2			7			12			17	
3			8			13			18	
4			9			14			19	
5			10			15			20	

Construct a histogram of the class results on the grid below.



Questions:

1. On which roll is it more likely to roll doubles? Justify your answer.

2. Describe the shape, center and spread for this distribution.

3. Locate the mean and the median for this distribution. Which is larger? Why?

4. Let's play a game…

If you can roll the dice 6 times ***without*** rolling "doubles", I will give you $1. However, if "doubles" are rolled on the first through sixth roll, you pay me $1…. Who wants to play?