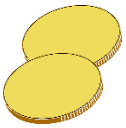
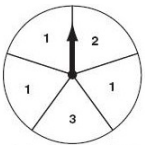
Name_____

Math 2 – Simulation Lab

We have several ways to generate random numbers:


Coins

Dice

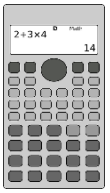


Spinner

Cards

80777	84395	69563
69273	72532	78340
72944	96463	63533
88606	61406	38757

Random Number Tables


Calculator

With a single coin – P(H) = _____≈ _____ P(T) = _____≈ _____

With a single die – P(2) = _____≈ _____ P(even) = _____≈ _____

With the spinner – P(4) = _____ ≈ _____ P(prime) = _____≈ _____

With the cards – P(Face card) = _____≈ _____ P(heart) = _____≈ _____ _ P(5) = _____≈ _____

With the random number table – P(7) = _____≈ _____ P(even) = ____ ≈ _____ P(multiple of 3) = _____≈ _____

Lebron is watching Stephen Curry, who has a 92.1% free throw percentage, prepare for his free throw shot and wants to predict his success with one of these methods.

Is a coin flip a good method? Why/why not?

What about a dice roll?

Could he use a deck of cards?

Would the random number table work?

Other ideas?

Lebron decided to use a dice roll and count rolls of 2, 3, 4, 5, or 6 as a made shot – P(2, 3, 4, 5, or 6) = ____ ≈ _____. Here is his table to simulate how many Curry made in the game.

Sample Size	Number of "shots made"	Percent of "shots made"
4	3	75%
12	10	83.3%
30	24	80%
50	42	84%

According to his simulation, will he demonstrate his free throw percentage?

Is this a good model of his situation? Why/why not?

Giannis Antetokoumpo has a free throw percentage of 72.3%, design a simulation for his success in a game. Describe that simulation, run it, then evaluate it.

Design	Data			Evaluation
	Sample Size	Number of "shots made"	Percent of "shots made"	

There is a new player to the NBA: Raymond Matkin, we do not know his free throw percentage, but Lebron wants to use a coin flip to simulate it. Does that seem reasonable, why or why not?