

Simulations WS

- ① Use a random number generator. Let 1-8 represent him making the shot and 9-10 represent him missing the shot. Generate 18 random numbers for one trial. Run 20 trials and find the average number of shots he makes.

Trial	#s	# of shots made
1	10, 2, 1, 7, 5, 3, 3, 7, 2, 5, 10, 2, 3, 7, 1, 4, 1, 9	15
2	8, 3, 5, 8, 3, 1, 6, 1, 4, 7, 9, 7, 1, 4, 5, 3, 2, 9	16
3	9, 6, 6, 8, 4, 7, 6, 1, 10, 6, 4, 9, 3, 5, 10, 7, 5, 2	14

*keep going to make results more accurate.

Average the # of shots made. In this case my average would be 15 shots per game.

- ② Use a random number generator. Let 1-6 represent her making the shot and 7-10 represent her missing the shot. Generate 8 numbers to represent one trial. Run 20 trials and find the average # of shots she makes

Trial	#s	# of shots made
1	10, 9, 6, 1, 8, 8, 4, 9	3
2	4, 9, 9, 7, 10, 7, 2, 10	2

*keep going to make results more accurate.

Find the average # of shots made.

- ③ Use a random number generator. Let 1-2 represent them winning the game and 3-10 represent them losing. Generate 15 #'s to represent one trial. Run 20 trials and find the average # of games they win.

Trial	#s	# of games won
1	① 3, 10, 4, 6, ①, ②, 8, 9, 3, 5, 4, 10, ②, ①	5
2		
3		
4		
5		

*keep going to make results more accurate. Find avg. # of games won.

- ④ Use a standard deck of cards. Let spades, clubs, and hearts represent him making the shot and let diamonds represent him missing it. Randomly select a card, record it, place it back in the deck, and repeat 16 times to represent one trial. Run 20 trials and find the average # of shots he makes.

Trial	Cards	# of shots made
1	Heart, Spade, H, S, H, C, C, H, H, H, S, C, C, H, C, D	15
2		
3		
4		
5		

*keep going to make results more accurate. Find avg. # of shots made

5) a) Use a penny. Let heads represent him saving the shot and tails represent him failing to save the shot. Flip the coin 12 times to represent one trial. Run 20 trials and find the average # of shots saved.

Trial	Results	# of shots saved
1	# T T T # T # # T # # T	6
2		
3		
4		
5		

*keep going to make results more accurate. Find the average # of shots saved.

6) Use a random number generator. Let 1-2 represent him saving the shot and 3 represent him failing to save the shot. Generate 12 numbers to represent one trial. Run 20 trials and find the average # of shots saved.

Trial	Results	# of shots saved
1	1, 3, 2, 1, 1, 3, 2, 3, 3, 1, 2, 1	8
2		
3		
4		
5		

c) The more trials, the more accurate the results will be!

b) Use a random number generator. Let 1-2 represent a correct answer and 3 represent incorrect answer. *If he gets a 1 or a 2 on the first try move on to the next trial. If he makes a "3" on the first try, you will generate another random number! This time let 1 represent a correct answer and 2 represent an incorrect answer. Record what he gets and move on to the next trial

Trial	Result 1	Correct?	Result 2	Correct?
1	1	✓	—	—
2	2	✓	—	—
3	3	x	1	✓
4	3	x	2	x
5	1	✓	—	—