

*Round to 5 + 1 (discard decimals)*



### McDonald's Happy Meals



How many visits to McDonald's would it take to collect all five Simpson's Happy Meal toys?

McDonalds often has promotions where it gives away one of five toys (randomly) to each customer who purchases a Happy Meal. Assume that the likelihood of one toy being handed out is independent of another.

Steps to follow:

1. Generate a random number between 1 and 5 inclusive (equal probability 1/5). The result of the random number represents the toy given:

1	Bart
2	Lisa
3	Maggie
4	Homer
5	Marge

2. Put a tick in the box to represent the toy given, also record a tally as this represents a visit to McDonalds.
3. Continue to generate random numbers, if there is already a tick for the toy you must record a tally as this represents a Happy Meal purchased.
4. Continue until there is a tick in each of the toy columns (ie. All five toys have been collected).
5. Count up the number of purchases and put this in the total column.
6. Repeat the simulation 20 times.
7. Find the average number of Happy Meals purchased to collect all five Simpsons toys.

Total