

ESSE

# Probability

## My Little Book of

By

Probability

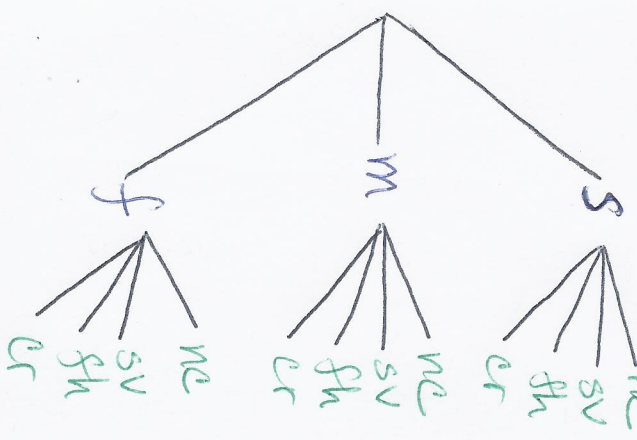
Example:

At the store you can buy Doritos in 3 sizes, small, medium, and family size. They also come in 4 different flavors, nacho cheese, salsa verde, fiery habanero, and cool ranch.

- small = s
- medium = m
- family = f
- nacho cheese = nc
- salsa verde = sv
- fiery habanero = fh
- cool ranch = cr



One way to represent all the choices is by making a tree diagram:



Or, you can use a table to find all the possible choices:

	s	m	f
nc	snc	mnc	fncc
sv	ssv	msv	fsv
fh	sfh	mfh	ffh
cr	scr	mcr	fcrr

What is the probability that you will choose a medium bag of nacho cheese Doritos?

$$\frac{1}{12} \text{ or } 8\frac{1}{3}\%$$

What is the probability that you will NOT choose a family size bag of Doritos?

$$\frac{8 \text{ not family}}{12 \text{ total}} = \frac{2}{3} \text{ or } 66\frac{2}{3}\%$$

What is the probability of NOT choosing salsa verde Doritos?

$$\frac{9 \text{ not salsa verde}}{12 \text{ total}} = \frac{3}{4} \text{ or } 75\%$$

You can use either a tree diagram or a table to answer the following questions:

How many different choices of Doritos are there?

There are 12 choices (or possible outcomes)

What is the probability that you will choose a small bag of Doritos?

$$\frac{4 \text{ small}}{12 \text{ total}} = \frac{1}{3} \text{ or } 33\frac{1}{3}\%$$

You can use either a tree diagram or a table to list all the possible outcomes as a set:

- { (s,nc), (m,nc), (f,nc), (s,sv), (m,sv), (f,sv), (s,fh), (m,fh), (f,fh), (s,cr), (m,cr), (f,cr) }

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Essie

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One way to represent all the choices is by making a tree diagram:

You can use either a tree diagram or a table to list all the possible outcomes as a set:

$(s, nc), (m, nc),$   
 $(f, nc), (s, sv),$   
 $(m, sv), (f, sv),$   
 $(s, fh), (m, fh),$   
 $(f, fh), (s, cr),$   
 $(m, cr), (f, cr)$

Or, you can use a table to find all the possible choices:

	nc	sv	fh	cr
s	nc s	sv s	fh s	cr s
m	nc m	sv m	fh m	cr m
f	nc f	sv f	fh f	cr f

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**MATH**  
**ALL THE COOL KIDS**  
**ARE DOING IT.**