ODDS:

Compare the likelihood of one thing happening to the likelihood of another thing happening.

17 Monkeys
6 have blue eyes
11 have red eyes

randomly pick 1 monkey:

$\frac{6}{17}$ probability blue eyes

$\frac{11}{17}$ probability red eyes

$\frac{6}{11}$ odds of picking a blue eyed monkey vs. a red eyed monkey

50/50 $\frac{1}{1}$

60/40 $\frac{3}{2}$

Theoretical vs. True probabilities

$\frac{12}{24}$ boys → in theory, pick 10 people, 5 are boys

BUT that's not the only possible outcome

POSSIBLE OUTCOMES:

All the potential scenarios in a given situation.

Flipping a coin:

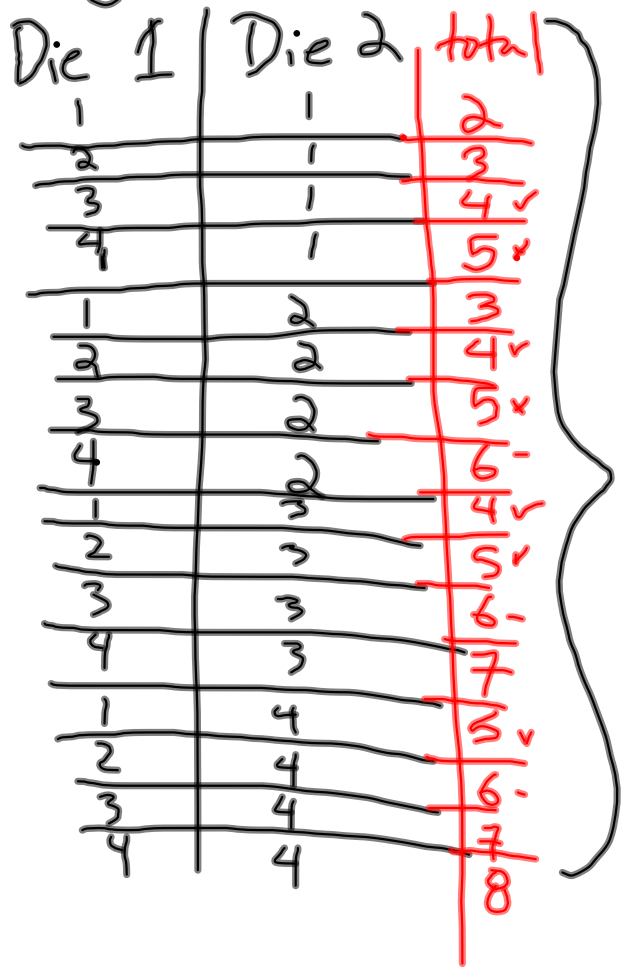
$\frac{1}{2}$ Heads
$\frac{1}{2}$ Tails
→ 2 outcomes

Flipping two coins:

	coin 1	coin 2
$\frac{1}{4}$	heads	heads
$\frac{1}{2}$	heads	tails
	tails	heads
$\frac{1}{4}$	tails	tails

→ 4 outcomes

Rolling 2 dice:

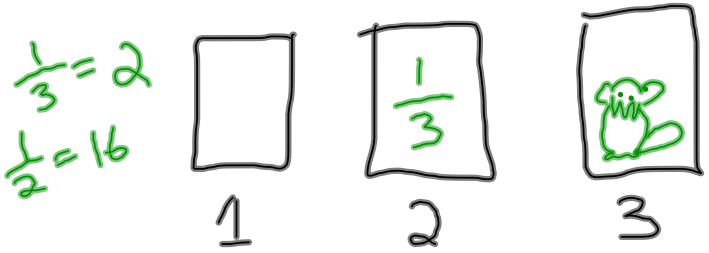


16 possibilies

$\frac{3}{16}$ of 4 $\quad \frac{4}{16} = \frac{1}{4}$ of 5

$\frac{3}{16}$ of 6

http://www.marilynvossavant.com/articles/gameshow.html

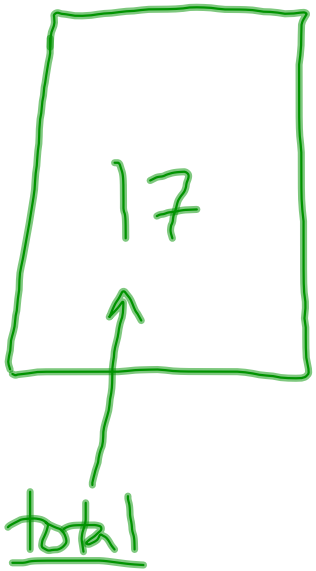


2 doors: rabid monkey

1 door: new car

After you pick, the host opens one other door to reveal: a monkey. She then asks you if you want to switch. Should you?

Door	1	2	3	don't switch	switch
1	M	M	C	Monkey	CAR
2	M	C	M	Monkey	CAR
3	C	M	M	CAR	Monkey
				1/3	2/3



	#	est. prob. of a blue chip
white	1	16/17
	2	16/17
	3	15/17
	5	14/17
	8	11/17
	11	9/17
	14	7/17
Actual		4/17

Homework:

p. 844: 3–6 (not 5)

9–12

17–18