PROBABILITIES OF COMPOUND EVENTS

You can find the **probability of compound events** in the same way you find the probability of simple events! Write it as a fraction with the number of favorable outcomes over the number of possible outcomes in the sample space.

Let's try it!

You flip a coin twice. What is the probability you get tails both times?

Making a table is one way to determine all of the possible outcomes in the sample space.

	Heads (H)	Tails (T)
Heads (H)	H, H	H, T
Tails (T)	T, H	T, T

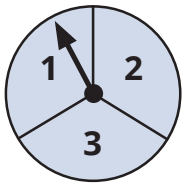
The table shows the 4 outcomes in the sample space. The outcome H, T means you get heads on the first flip and tails on the second flip.

There is 1 favorable outcome: T, T.

So, the probability of getting two tails when you flip a coin twice is $\frac{1}{4}$.

Find each probability by first determining the sample space. Use a table, tree diagram, or organized list to help you. Write each probability as a simplified fraction. Representations of sample spaces may vary.

1) Owen spins the spinner below twice. What is the probability that he lands on 1 and then 3?



	1	2	3
1	1, 1	1, 2	1, 3
2	2, 1	2, 2	2, 3
3	3, 1	3, 2	3, 3

$\frac{1}{9}$

2) Tanesha flips a coin and then rolls a six-sided die. What is the probability that the coin lands on heads and the die lands on 4?

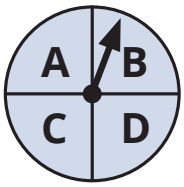
H1, T1, H2, T2, H3, T3, H4, T4, H5, T5, H6, T6

$\frac{1}{12}$

PROBABILITIES OF COMPOUND EVENTS

Keep going! Find each probability by first determining the sample space. Use a table, tree diagram, or organized list to help you. Write each probability as a simplified fraction. Representations of sample spaces may vary.

3) Sabrina spins the spinner below and then rolls a six-sided die. What is the probability that the spinner lands on B and the die lands on an even number?



$\frac{1}{8}$

4) Kai is playing a game where he randomly picks one tile from each of the bags below. What is the probability that Kai picks a vowel and a number greater than 1?

	1	2	3	4
A	A, 1	A, 2	A, 3	A, 4
B	B, 1	B, 2	B, 3	B, 4
C	C, 1	C, 2	C, 3	C, 4
D	D, 1	D, 2	D, 3	D, 4
E	E, 1	E, 2	E, 3	E, 4

$\frac{3}{10}$

5) Ava rolls a six-sided die twice. What is the probability she rolls two odd numbers?

	1	2	3	4	5	6
1	1, 1	1, 2	1, 3	1, 4	1, 5	1, 6
2	2, 1	2, 2	2, 3	2, 4	2, 5	2, 6
3	3, 1	3, 2	3, 3	3, 4	3, 5	3, 6
4	4, 1	4, 2	4, 3	4, 4	4, 5	4, 6
5	5, 1	5, 2	5, 3	5, 4	5, 5	5, 6
6	6, 1	6, 2	6, 3	6, 4	6, 5	6, 6

$\frac{1}{4}$