

# The Power of Probability

If you flip two coins, what is the probability that both coins will land on heads?

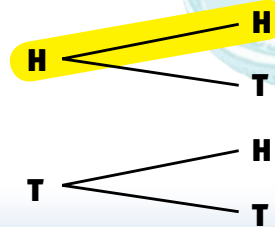
**Probability** is the likelihood of an event occurring. It can be expressed as a fraction, a decimal, or a percentage between 0% and 100%.

## Step 1 Select one of these solution methods:

Make a Table **OR** Make a Tree Diagram **OR** Use the Formula for Compound Events:

	H	T
H	HH	HT
T	TH	TT

H = Heads T = Tails



$$P(A \text{ and } B) = P(A) \cdot P(B)$$

$$P(\text{H and H}) = P(H) \cdot P(H)$$

$$P(\text{H and H}) = \frac{1}{2} \cdot \frac{1}{2}$$

## Step 2 Calculate the answer:

There are four outcomes and one is favorable, so the probability is one in four that both coins will land on heads.

$$\frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$$

## Step 3 Express your answer:

Use a fraction (in lowest terms), decimal, or percentage.

$$\frac{1}{4} = 0.25 = 25\%$$

Test your probability skills at:  
[www.actuarialfoundation.org/probabilitychallenge](http://www.actuarialfoundation.org/probabilitychallenge)

