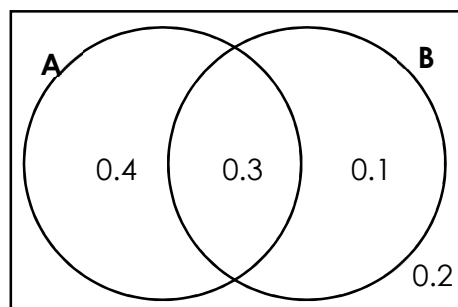


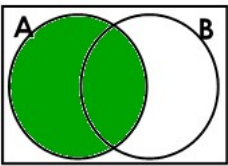
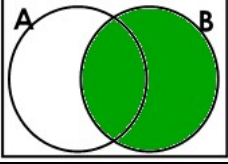
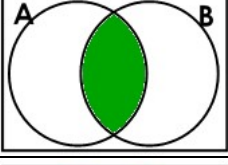
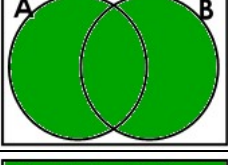
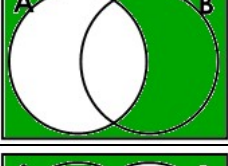
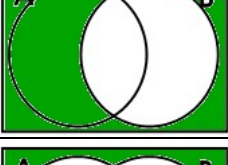
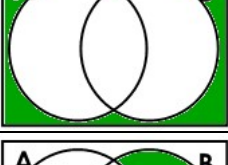
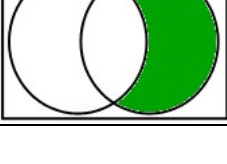
Part 5.4: Venn Diagrams Terminology

When looking at Venn diagrams (or probability in general) we have a few different ways of representing information.

Let's use this Venn diagram to help us look at things:

Below are the core terminology, and the last two are just a couple of ways of combining them. They can be combined in a huge number of different ways.



Probability Way of Writing It	How you say it	What it means	Shaded Venn Diagram	Probability
$P(A)$	Probability of A	Probability of A occurring		$0.4 + 0.3 = 0.7$
$P(B)$	Probability of B	Probability of B occurring		$0.1 + 0.3 = 0.4$
$P(A \cap B)$	Probability of A intersection B	Probability of both A and B occurring		0.3
$P(A \cup B)$	Probability of A union B	Probability of A or B or both occurring		$0.4 + 0.3 + 0.1 = 0.8$
$P(A')$	Probability of A dash	Probability of A NOT occurring		$0.1 + 0.2 = 0.3$ (or $1 - 0.7$)
$P(B')$	Probability of B dash	Probability of B NOT occurring		$0.4 + 0.2 = 0.6$ (or $1 - 0.4$)
$P(A \cup B)'$	Probability of A union B dash	Probability of A or B or both NOT occurring		0.2 (or $1 - 0.8$)
$P(A' \cap B)$	Probability of A dash intersection B	Probability of both A NOT occurring and B occurring		0.1