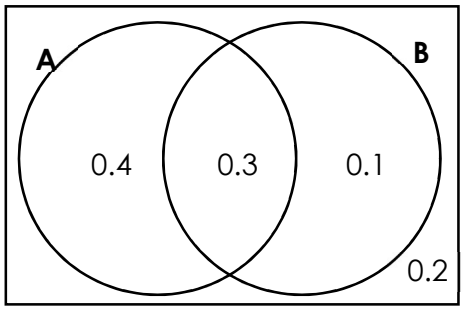
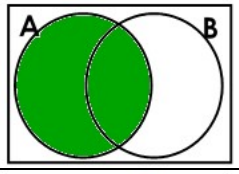
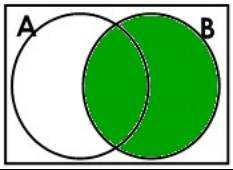
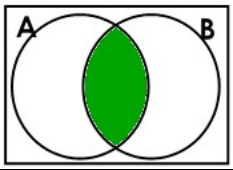
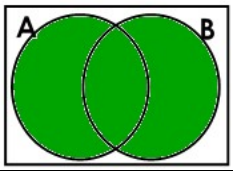
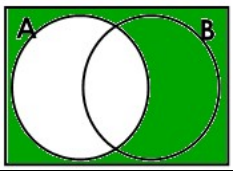
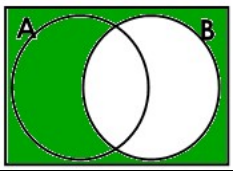
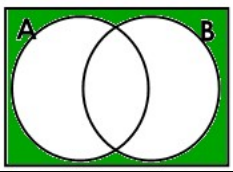
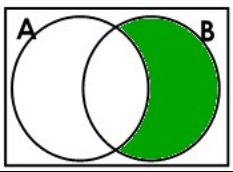
Part 5.4: Venn Diagrams Terminology

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 core terminologies, 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 ∩ B)	Probability of A intersection B	Probability of both A and B occurring		0.3
P(A U 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 U B)'	Probability of A union B dash	Probability of A or B or both NOT occurring		0.2 (or 1 – 0.8)
P(A' ∩ B)	Probability of A dash intersection B	Probability of both A NOT occurring and B occurring		0.1