

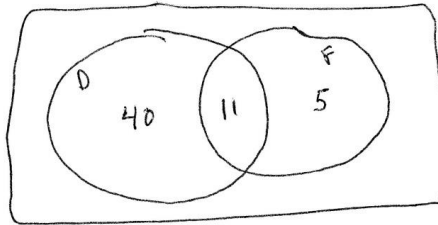
Venn Diagrams

Name Key

Probability – Statistics

1. The two-way table below describes the members of the U.S. Senate in 2008. Construct a Venn diagram of these data using D = Democrat and F = female as the events of interest.

	Male	Female	Total
Democrats	40	11	51
Republicans	44	5	49
Total	84	16	100



2. The two-way table below describes the 595 students who responded to a school survey about eating breakfast. Construct a Venn diagram of these data using B = eats breakfast and M = male as the events of interest.

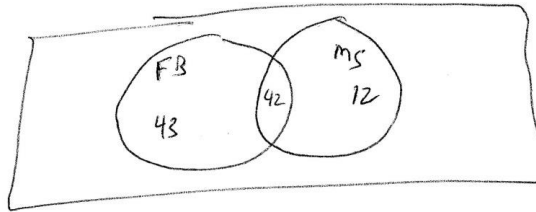
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3. Referring to the Venn diagram below, what's the probability that at most one of the two events occurs? What's the probability that at least one of the two events occurs?

?

Key

4. A recent survey suggests that 85% of college students have posted a profile on Facebook, 54 use MySpace regularly, and 42% do both. Suppose we select a college student at random.
- Construct a Venn diagram to represent this setting.
 - Find $P(\text{does not use Facebook or MySpace})$.
 - Make a two-way table for this setting.



MySpace	12%
FACEBOOK	43%
BOTH	42%
NEITHER	3%

b) $\frac{3}{100} = 3\% = 0.03$

	HAVE	NOT HAVE	BOTH
FB	43	15	42
MS	12	46	42

5. An October 2007 census revealed that 40% of Princeton students primarily used Macintosh computers (MACs). The rest primarily used PCs. At the time of the census, 67% of Princeton students were undergraduates. The rest were graduate students. According to the census, 23% of Princeton's graduate students said that they used PCs as their primary computers. Suppose that we select a Princeton student at random.

- Construct a Venn diagram to represent this setting.
- Find $P(\text{graduate who uses a MAC}) = 26\% = 0.26$
- Make a two-way table for this setting.

	MAC	PC	
Undergrad	14	53	67
Grad	26	7	33
	40	60	

