

Probability

CREDIT: The questions on this document were written by Erik Packard, PhD, Associate Professor of Mathematics at Colorado Mesa University.

- Problem 4
 - Suppose in a group of people getting ready to vote that 63% favor Amendment A, 48% favor Amendment B, and 41% favor both amendments.
 - A) What percent of people in this group favor neither amendment?
 - B) What percent of people favor Amendment B, but not Amendment A?
- Problem 9
 - People with O^- blood are universal donors. That is, any patient can receive a transfusion of O^- blood. Only 7.2% of Americans have O^- blood. If 8 people appear at random, what is the probability that at least one of them is a universal donor?
- Problem 14
 - Suppose in a group of people getting ready to vote that 63% favor Amendment A, 48% favor Amendment B, and 41% favor both amendments.
 - A) If a person favors Amendment A, then what is the probability they favor Amendment B?
 - B) If a person favors Amendment B, then what is the probability they favor Amendment A?

- Problem 16
 - Here are the number of full-time faculty in graduate departments of Sociology by rank and gender for 2000 – 2001.

	Instructor	Assistant Professor	Associate Professor	Full Professor	Total:
Female	61	565	502	476	1604
Male	39	618	683	1383	2723
Total:	100	1183	1185	1859	4327

- A) What percent are associate professors?
- B) If you pick one full-time faculty at random, then what is the probability the person is a female given they are an associate professor?
- C) If you pick one full-time faculty at random, then what is the probability the person is an associate professor given they are female?