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**Chapter 4 Group Assignment**

**Basic probability**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of times students visited tutoring center | | | |
|  | One or fewer times | Two to three times | Four or more times | **Total** |
| Full-time student | 35 | 79 | 21 | **135** |
| Part-time student | 17 | 36 | 47 | **100** |
| **Total** | **52** | **115** | **68** | **235** |

1. What is the probability that a student visited the tutoring center four or more times?
2. Given a student is full-time, what is the probability he or she visited the tutoring center one or fewer times?



7. What is the probability that a student is either part-time or has visited the tutoring center two to three times?
8. **Multiplication Rule** Callie rolls a die and flips a coin. What’s the probability of her flipping “tails” and rolling an odd number?

**P(tails, odd) = 0.5 x 0.5 = 0.25**

1. **Addition Rule** The following Venn diagram shows the probability of Normandale students owning cats, dogs, and fish. What is the probability that a student owns a **cat or a dog**?

Cat

Dog

Fish

.04

.21

.09

.16

.17

.05

.03

.25

**P(cat or a dog) = .21 + .16 = .37**

1. **Addition Rule** In a survey, 12% said they read the newspaper, 42% said they read online news articles, and 5% said they read the newspaper and online news articles. What’s the probability a survey respondent reads the newspaper **or** online news articles.

P(newspaper or online news article) = .12 + .42 - .5 = .49 x 100% = 49%

1. **Complementary Events/Multiplication Rule** At Tony’s restaurant, chicken parmesan is very popular; 1 in 5 customers order the chicken parmesan. A group of 10 people go to Tony’s restaurant.
   1. What is the probability a customer doesn’t order chicken parmesan?

8/10 don’t order chicken parmesan

* 1. What is the probability **none** of the 10 customers order chicken parmesan?

(8/10)^10 =. 0.11

* 1. What is the probability **at least one** of the 10 customers order chicken parmesan?

(2/10)^10 = 1.024 x 10^-7