

Conditional Probability

Titanic Mortality Table

	Men	Women	Boys	Girls	Total
Survived	332	318	29	27	706
Died	1360	104	35	18	1517
Total	1692	422	64	45	2223

If you select a passenger at random, what's the **probability** of selecting a person who:

Approximate to the nearest thousandths.

1. Died **given that** man?
2. Died **given that** woman?
3. Died **given that** boy?
4. Died **given that** girl?
5. Which group was less likely to die on the Titanic?
6. Which group was more likely to die on the Titanic?

Cooties

The following table represents the infection rates of people with cooties.

	Infected	Not Infected	Total
Test +	1325	32	1357
Test -	150	268	418
Total	1475	300	1775

If you select a person at random, what's the probability the person:

Approximate to the nearest thousandths.

7. Tests + **given that** the person is not infected? **FPR**
8. Tests – **given that** the person is infected? **FNR**
9. Tests + **given that** the person is infected? **TPR**
10. Tests – **given that** the person is not infected? **TNR**

Belief in Ghosts?

The following sample is of students who believe in ghosts.

	Men	Women	Total
Yes	882	655	1537
No	68	35	103
Total	950	690	1640

If you select a person at random, what's the probability the student says:

Approximate to the nearest thousandths.

11. Yes **given that** the student is a man?
12. Yes **given that** the student is a woman?
13. No **given that** the student is a man?
14. No **given that** the student is a woman?
15. Which gender was less likely to believe in ghosts?
16. Which gender was more likely to believe in ghosts?

Drive Through Order Accuracy

The following table illustrates the accuracy information for various restaurants.

	Jim's Burger	Troy's Burger	Mario's Tacos	Vinnie's Pizza	Total
Accurate	455	380	622	564	2021
Not Accurate	25	23	38	28	114
Total	480	403	660	592	2135

If you select an order at random, what's the probability the order was:

Approximate to the nearest thousandths.

17. Accurate **given that** the order was from Jim's?
18. Accurate **given that** the order was from Troy's?
19. Accurate **given that** the order was from Mario's?
20. Accurate **given that** the order was from Vinnies?
21. Which restaurants was the least likely to have an accurate order?
22. Which restaurants was the most likely to have an accurate order?