

*Symbol: $P(A|B)$

*Looks Like: The probability of getting a paperback given it is nonfiction.

*Means: We are only looking at nonfiction

*Two Way Table:

	Fiction	Non-fiction	Total
Paperback	24	56	80
Hardcover	82	38	120
Totals	106	94	200

Hints/Tips:

$P(\text{paperback} | \text{non-fiction})$

Category $\swarrow$ $\searrow$ Column

$\frac{56}{94} = 60\%$

Finding Conditional Probability

EX1) The results from a class survey are shown in the table below.

	Do you own a pet?	
	Yes	No
Male	8	5
Female	6	7

Totals

13

13

26

totals 14 12

A. Find the probability $P(\text{own a pet} | \text{female})$

$$6/13 = 46\% \quad \text{Total}$$

B. Find the probability $P(\text{own a pet} | \text{Male})$

$$8/13 = 61\% \quad \text{Total}$$

C. Find the probability $P(\text{Female} | \text{Don't own a pet})$

$$7/12 = 58\% \quad \text{Total}$$

D. Find the probability $P(\text{Female and owns a pet})$

$$6/26 = 23\%$$

E. Find the probability $P(\text{Male or doesn't own a pet})$

$$(13 + 12 - 5) / 26 = \frac{20}{26} = 77\%$$

Ex 2. Use the table to find each probability.

Job Applicant Traits

		Job Experience	
		Yes	No
High School Diploma	Yes	62	23
	No	7	4

Totals 69 27 | 96

A. $P(\text{diploma} | \text{experience})$

$$\frac{\text{Num}}{\text{Den}} = \frac{62}{69} = 90\%$$

B. $P(\text{Experience} | \text{no diploma})$

$$\frac{\text{Num}}{\text{Den}} = \frac{7}{11} = 64\%$$

C. $P(\text{no diploma} | \text{no experience})$

$$\frac{4}{27} = 15\%$$

D. $P(\text{No experience and high school diploma})$

$$\frac{23}{96} = 24\%$$

E. $P(\text{No job experience or no high school diploma})$

$$\frac{(27 + 11 - 4)}{96} = \frac{34}{96} = 35\%$$