

# Two Frequency Table

Examine The Relationship Between two variables.

Joint Frequency

	SUV	Sports	Total
male	21	39	60
Female	135	45	180
Total	156	84	240

Marginal Frequency

	SUV	Sports	Total
male	$\frac{21}{240} = 0.09$	0.16	0.25
Female	0.56	0.19	0.75
Total	0.65	0.35	1.00

Relative Frequency

We use the term Given when we assume something to be true.

Also, we use given to mean that the sample set is made up exclusively of that group.

$$a) \quad P(F) = \frac{22}{52} \quad b) \quad P(C) = \frac{29}{52}$$

$$P(C|F) = \frac{13}{22} = 0.59$$

↑  
Given

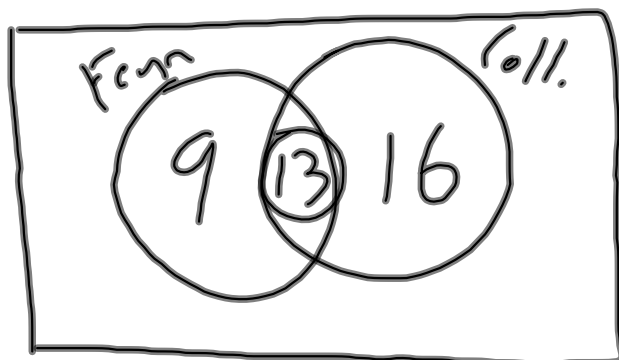
$$P(C|M) = \frac{16}{30} = 0.53$$

↑  
Given

$$P(M|C)$$

↑  
Given

$$\frac{16}{29} = 0.55$$



$$\frac{13}{29}$$



$$P(A|B) = \frac{4}{12} = \frac{0.33 P(A \text{ and } B)}{P(B)}$$

$P(A \text{ or } B)$

$P(A \text{ and } B)$

$$P(A|B) = \frac{P(A \text{ and } B)}{P(B)}$$

the Probability of  
A given B is equal to the Prob.  
of A and B divided by Prob B.

		Hair Color			Total
		Black	Blond	Red	
Eye Color	Blue	0.15	0.20	0.05	0.40
	Brown	0.25	0.10	0.00	0.35
	Green	0.05	0.05	0.15	0.25
	Total	0.45	0.35	0.20	1.00

