4.4 Contingency Tables

	C_1	C_2	total
R_1	$C_1 \& R_1$	$C_2 \& R_1$	R_1 total
R_2	$C_1 \& R_2$	$C_2 \& R_2$	R_2 total
Total	C_1 total	C_2 total	Overall total

Counts / Number of

Joint Probability Distributions

	C_1	C_2	total
R_1	$P(C_1 \& R_1)$	$P(C_2 \& R_1)$	$P(R_1)$
R_2	$P(C_1 \& R_2)$	$P(C_2 \& R_2)$	$P(R_2)$
Total	$P(C_1)$	$P(C_2)$	1

Probability

4.108

	C1	C2	Total
R1	c = 15	b = 3	18
R2	20	a = 12	32
Total	d = 35	15	e = 50

$20 + a = 32$

$a = 12$

$b + 12 = 15$

$b = 3$

$c + 3 = 18$

$c = 15$

$15 + 20 = d$

$d = 35$

$e = 18 + 32 = 50$

	C1	C2	Total
R1	15/50	3/50	18/50
R2	20/50	12/50	32/50
Total	35/50	15/50	50/50

$(C_2$ and $R_2)$

Count is 12

Probability is $P(C_2$ and $R_2)$

$12/50 = 0.24$