

we have 36 outcomes  
and each probability is  
 $1/36$



Total outcomes = { (1,1),(1,2),(1,3),(1,4),(1,5),(1,6),  
(2,1),(2,2),(2,3),(2,4),(2,5),(2,6),  
(3,1),(3,2),(3,3),(3,4),(3,5),(3,6),  
(4,1),(4,2),(4,3),(4,4),(4,5),(4,6),  
(5,1),(5,2),(5,3),(5,4),(5,5),(5,6),  
(6,1),(6,2),(6,3),(6,4),(6,5),(6,6),  
}

$$p(x=1, y=2) = p(1,1) = 1/36$$

$$p(x=2, y=3) = p(1,2) + p(2,1) = 1/36 + 1/36 = 2/36$$

$$p(x=2, y=4) = p(2,2) = 1/36$$

$$p(x=3, y=4) = p(1,3) + p(3,1) = 2/36$$

$$p(x=3, y=5) = p(2,3) + p(3,2) = 2/36$$

$$p(x=3, y=6) = p(3,3) = 1/36$$

$$p(x=4, y=5) = p(4,1) + p(1,4) = 2/36$$

$$p(x=4, y=6) = p(4,2) + p(2,4) = 2/36$$

$$p(x=4, y=7) = p(4,3) + p(3,4) = 2/36$$

$$p(x=4, y=8) = p(4,4) = 1/36$$

$$p(x=5, y=6) = p(5,1) + p(1,5) = 2/36$$

$$p(x=5, y=7) = p(5,2) + p(2,5) = 2/36$$

$$p(x=5, y=8) = p(3,5) + p(5,3) = 2/36$$

$$p(x=5, y=9) = p(4,5) + p(5,4) = 2/36$$

$$p(x=5, y=10) = p(5,5) = 1/36$$

$$p(x=6, y=7) = p(1,6) + p(6,1) = 2/36$$

$$p(x=6, y=8) = p(2,6) + p(6,2) = 2/36$$

$$p(x=6, y=9) = p(3,6) + p(6,3) = 2/36$$

$$p(x=6, y=10) = p(4,6) + p(6,4) = 2/36$$

$$p(x=6, y=11) = p(5,6) + p(6,5) = 2/36$$

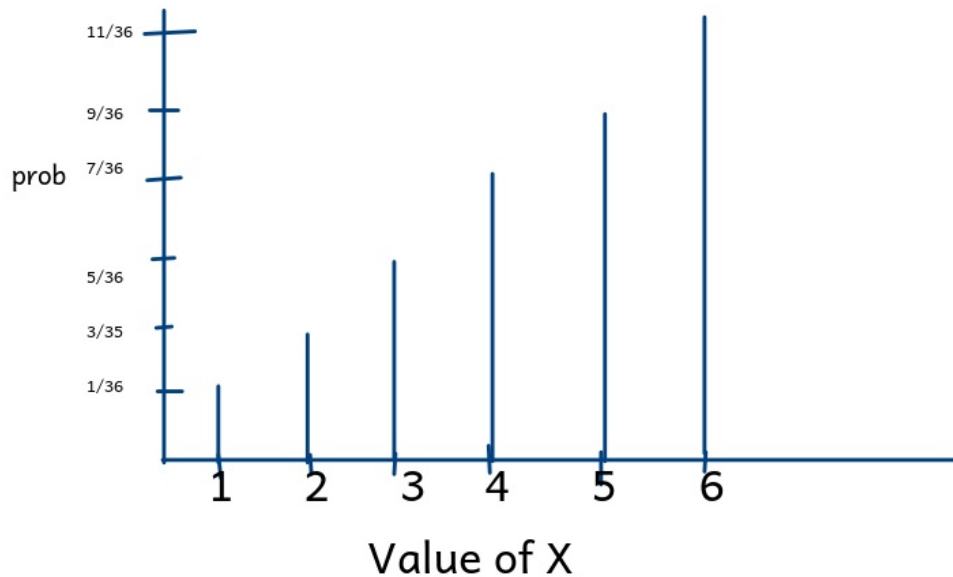
$$p(x=6, y=12) = p(6,6) = 1/36$$

[illegible]

in order to marginal probability of x and y separate (simple get the value from the tables

### Marginal Probability of X :

X	1	2	3	4	5	6	
$p(X=x)$	1/36	3/36	5/36	7/36	9/36	11/36	



## Marginal Probability of Y

Y	2	3	4	5	6	7	8	9	10	11	12		
$p(Y=y)$	$1/36$	$2/36$	$3/36$	$4/36$	$5/36$	$6/36$	$5/36$	$4/36$	$3/36$	$2/36$	$1/36$		

