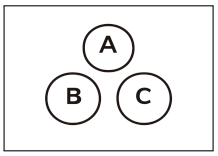
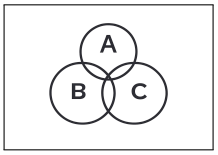
12 Discrete Distribution Odds and Probability F



$S = \{1, 2, 3, 4\}$

$T = \{1\}$

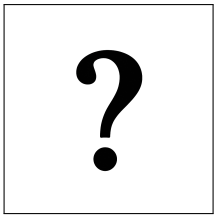


$P(T) = \frac{|T|}{|S|} = \frac{1}{4} = 0.25$

$P(T^C) = 1 - P(T) = 0.75$

$$\frac{|T|}{|T^C|} = \frac{|E|}{|S|} \times \frac{|S|}{|E^C|} = \frac{P(E)}{P(E^C)} = \frac{P(E)}{1-P(E)}$$

$$a : b \rightarrow \frac{a}{a+b} = \frac{ak}{ak+bk} = \frac{|E|}{|E|+|E^C|} = \frac{|E|}{|S|} = P(E)$$



$S = \{1, 2, 3, 4, 5, 6\}$

$T = \{1\}$

$a : b(T) = ?$

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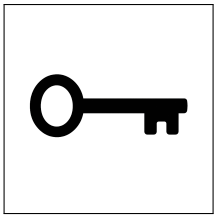

$S = \{1, 2, 3, 4, 5, 6\}$
$T = \{1\}$
$a : b(T) = |T| : (|S| - |T|) = 1 : 5$