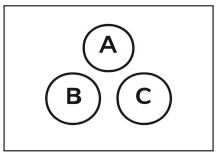
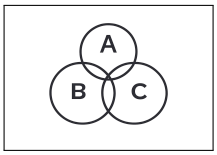
7 Discrete Distribution Complementary Event K



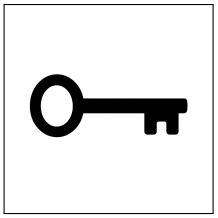
$S = \{1, 2, 3, 4, 5, 6, 7, 8\}$
$A = \{1, 2\}$



$P(A) = |A|/|S| = 2/8 = 0.25$
$P(A^C) = 1 - P(A) = 0.75$

$P(P \cap C) = 0.22$
$P(P^c \cap C^c) = 0.12$
$P(P) = x$
$P(C) = x + 0.14$
$P(P) = ?$

7 Discrete Distribution Complementary Event K



$P(P \cap C) = 0.22$
$P(P^c \cap C^c) = 0.12$
$P(P) = x$
$P(C) = x + 0.14$
$P(P) = ?$

$P(P \cup C) = 1 - P(P^c \cap C^c) = 1 - 0.12 = 0.88$

$P(P \cup C) = P(P) + P(C) - P(P \cap C)$
$0.88 = x + (x + 0.14) - 0.22$
$0.88 = 2x + 0.14 - 0.22 = 2x - 0.08$
$0.96 = 2x$
$P(P) = x = \frac{0.96}{2} = 0.48$