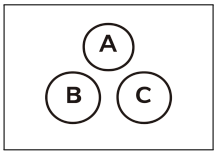
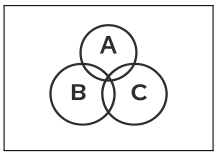
19 Discrete Distribution Bernoulli Trials C



$n = 2$

$p = 0.50$

$k = 1$

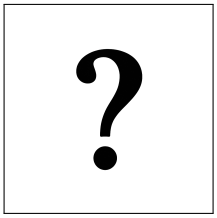


$$P(X = k) = \binom{n}{k}(p)^k(1-p)^{n-k}$$

$$P(X = 1) = \binom{2}{1}(0.50)^1(0.50)^1$$

$$P(X = 1) = 2 \times 0.50 \times 0.50$$

$$P(X = 1) = \boxed{0.50}$$



$n = 3$

$p = 0.5$

$P(X = 0) = ?$

$P(X = 1) = ?$

$P(X = 2) = ?$

$P(X = 3) = ?$

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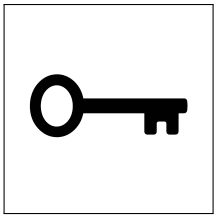

$n = 3$
$p = 0.5$
$P(X = 0) = ?$
$P(X = 1) = ?$
$P(X = 2) = ?$
$P(X = 3) = ?$

$P(X = k) = \binom{3}{k} (0.5)^k (0.5)^{3-k}$
$P(X = 0) = \binom{3}{0} (0.5)^0 (0.5)^3 = 1/8$
$P(X = 1) = \binom{3}{1} (0.5)^1 (0.5)^2 = 3/8$
$P(X = 2) = \binom{3}{2} (0.5)^2 (0.5)^1 = 3/8$
$P(X = 3) = \binom{3}{3} (0.5)^3 (0.5)^0 = 1/8$