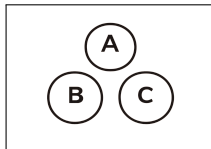


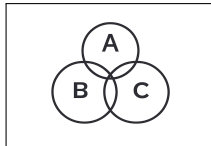
15 Discrete Distribution Expected Value Variable M



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

$$P(1) = P(2) = P(3) = P(4) = P(5) = P(6) = \frac{1}{6}$$

$$E[X] = ?$$



$$E[X] = \sum x, P(X = x)$$

$$E[X] = \frac{1}{6}(1 + 2 + 3 + 4 + 5 + 6)$$

$$E[X] = \frac{1}{6}(21)$$

$$E[X] = \frac{21}{6}$$

$$E[X] = 3.5$$



$$P(X = -1) = 0.2$$

$$P(X = 0) = 0.3$$

$$P(X = 0.5) = 0.1$$

$$P(X = 4) = 0.3$$

$$E(X) = ?$$

15 Discrete Distribution Expected Value Variable M



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$$P(X = 4) = 0.3$$

$$E(X) = ?$$

$$E(X) = \sum x \times p(x) = (-1)(0.2) + (0)(0.3) + (0.5)(0.1) + (4)(0.3)$$

$$E(X) = -0.2 + 0 + 0.05 + 1.2 = 1.05$$