

סדרה קורס

$$P(B) = \frac{1}{2} \cdot \frac{3}{4} + \frac{1}{2} \cdot \frac{1}{2} = \frac{5}{8}$$

$$P(A \cap B) = \frac{1}{2} \cdot \frac{3}{4} = \frac{3}{8}$$

$$P(A|B) = \frac{\frac{3}{8}}{\frac{5}{8}} = \boxed{\frac{3}{5}}$$

(B = 300, A = 100)

$$(2) \quad P(B) = \frac{1}{300} + \frac{1}{125} = \frac{17}{7500}$$

$$P(A \cap B) = \frac{1}{300}$$

$$P(A|B) = \frac{\frac{1}{300}}{\frac{17}{7500}} = \boxed{\frac{5}{17}}$$

(A = פ'נס, B = פ'ניח)

$$P(B) = \frac{1}{2} \cdot \frac{26}{100} + \frac{17}{100} \cdot \frac{1}{2} = \frac{17}{100}$$

$$P(A \cap B) = \frac{1}{2} \cdot \frac{1}{5} = \frac{1}{10}$$

$$P(A|B) = \frac{\frac{1}{10}}{\frac{17}{100}} = \boxed{\frac{10}{17}}$$

(A = 1994, B = 2003) (2)

$$\frac{1}{10000} \cdot \frac{99}{100} + \left(1 - \frac{1}{10000}\right) \cdot \frac{1}{100} = \boxed{0.010099}$$

$$\frac{1}{200} \cdot \frac{99}{100} + \left(1 - \frac{1}{200}\right) \cdot \frac{1}{100} = \boxed{\frac{149}{10000}}$$

(1) (1) סדרה קורס (4)

Random Variables

$$(1+5)/(3+3)/(2+4) = 3 \left[2 \left(\frac{1}{3} \cdot \frac{1}{3} \right) \right] = \left[\frac{2}{3} \right] \text{ Divisible by 3} \quad (1)$$

$$1 - \frac{1}{6} = \left[\frac{5}{6} \right] \text{ Not divisible by 3} \quad (2)$$

$$E(x) = 6 \cdot \frac{1}{6} + (-3) \cdot \frac{5}{6} = \left[-1.5 \right]$$

$$\left. \begin{matrix} (10+3)(4+5) \\ (9+4)(5) \\ (8+5) \end{matrix} \right\} \left(\frac{1}{3} \cdot \left(\frac{1}{3} + \frac{1}{3} + \frac{1}{3} \right) \right) + \left(\frac{1}{3} \cdot \frac{2}{3} \right) + \left(\frac{1}{3} \cdot \frac{1}{3} \right) = \left[\frac{6}{25} \right] \text{ Win} \quad (3)$$

$$\left. \begin{matrix} (10+2) \\ (9+3) \\ (8+4) \\ (7+5) \end{matrix} \right\} 4 \left(\frac{1}{3} \cdot \frac{1}{3} \right) = \left[\frac{4}{25} \right] \text{ Tie} \quad 1 - \left(\frac{4}{25} + \frac{6}{25} \right) = \left[\frac{15}{25} \right] \text{ Lose}$$

$$E(x) = 5 \cdot \frac{6}{25} + (-6) \cdot \frac{15}{25} = \left[-2.4 \right]$$

$$\text{Mean} = \frac{\sum i}{80} = \frac{36}{80} = \frac{9}{20} = 0.45 \quad x_i = \frac{i}{90} \quad (4)$$

$$\text{STD} = \sqrt{\frac{1}{8} \sum_{i=1}^8 \left(x_i - \frac{9}{20} \right)^2} = 1.1136$$

$$\mu = 26000 \quad P(26 < x < 30) = P\left(26 - \frac{26}{2} < x - \frac{\mu}{6} < 30 - \frac{26}{2} \right) \quad (5)$$

$$\sigma = 2000 \quad P(26 < x < 30) = P(0 < z < 2)$$

$$P(26 < x < 30) = 0.4772 = \left[0.48 \right]$$

$$P(x > 3) = \frac{0.4 \cdot 2}{2} = \left[0.4 \right] \quad (6)$$

$$\left(\frac{4}{3} \right) \cdot \left(\frac{6}{10} \right)^3 \cdot \left(\frac{4}{10} \right) = 4 \cdot \frac{9}{25} \cdot \frac{4}{10} = \left[\frac{32}{125} \right] \quad (7)$$

$$E(x) = (-10 \cdot 0.15) + (-5 \cdot 0.35) + (0 \cdot 0.1) + (5 \cdot 0.35) + (10 \cdot 0.1) = 0 \quad (8)$$