

$$\begin{aligned} 16. \quad P(\text{J} \text{ and } \text{☺}) &= P(\text{J})P(\text{☺}|\text{J}) \\ &= \frac{4}{52} \cdot \frac{11}{51} \\ &= \frac{11}{663} \approx \text{0.017} \end{aligned}$$

$$21. \quad n = 3 \\ p = \frac{1}{6}$$

$$n C_k p^k (1-p)^{n-k}$$

$$3 C_x \left(\frac{1}{6}\right)^x \left(1 - \frac{1}{6}\right)^{3-x}$$

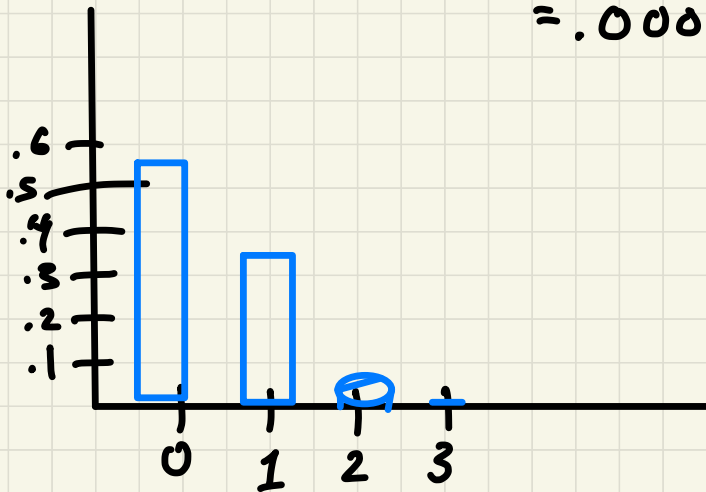
x	P(x)
0	0.579
1	0.347
2	0.069
3	0.005

$$18. \quad n = 10 \\ p = \frac{1}{5}$$

$$P(10) = {}_{10}C_{10} \left(\frac{1}{5}\right)^{10} \left(1 - \frac{1}{5}\right)^{10-10}$$

$$= 1.024 \times 10^{-7}$$

$$= .0000001024$$



$$\begin{aligned} 17. \quad P(\text{☺} \text{ or } R) &= P(\text{☺}) + P(R) - P(\text{☺ and } R) \\ &= \frac{12}{52} + \frac{26}{52} - \frac{6}{52} \\ &= \frac{32}{52} \\ &= \frac{8}{13} \approx 0.615 \end{aligned}$$

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8. Practice Test