

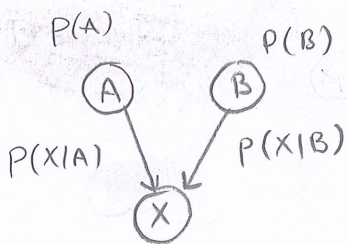


$$= \frac{\frac{1}{3} \times \frac{18}{(20)^7}}{\frac{1}{3} \times \frac{18}{(20)^7} + \frac{1}{3} \times \frac{2^6}{(20)^7} + \frac{1}{3 \times (20)^7}} = \frac{\frac{1}{3} \times \frac{18}{(20)^7}}{\frac{18 + 2^6 + 1}{3 \times (20)^7}} = \frac{18}{18 + 2^6 + 1} = \frac{18}{83}$$

$$P(\text{die}=B | \text{outcomes}) = \frac{\frac{1}{3} \times \frac{2^6}{(20)^7}}{\frac{18 + 2^6 + 1}{3 \times (20)^7}} = \frac{2^6}{18 + 2^6 + 1} = \frac{2^6}{18 + 2^6 + 1} = \frac{64}{83}$$

$$P(\text{die}=C | \text{outcomes}) = \frac{\frac{1}{3 \times (20)^7}}{\frac{18 + 2^6 + 1}{3 \times (20)^7}} = \frac{1}{18 + 2^6 + 1} = \frac{1}{83}$$

3)  $P(X) = P(X|A)P(A) + P(X|B)P(B)$



(1)

$$P(X) = P(X|A)P(A) + P(X|B)P(B) + P(X|C)P(C)$$

