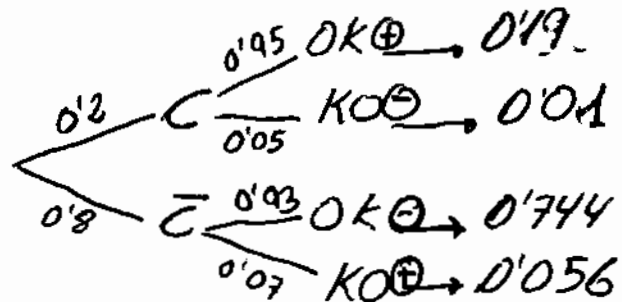


Comexión Central 3ª Evaluación - Matemáticas 2 - 2º Bach
24-04-2018

1) leyenda

C = agua contaminada
OK = el test acierta



a) $P(C/\text{negativo}) = \frac{P(C)P(KO|C)}{P(\text{negativo})} = \frac{0.01}{0.01+0.744} = \boxed{0.01326}$

b) $P(Z/\text{positivo}) = \frac{P(Z)P(KO|Z)}{P(\text{positivo})} = \frac{0.056}{0.19+0.056} = \boxed{0.22764}$ Debe descartarse el test.

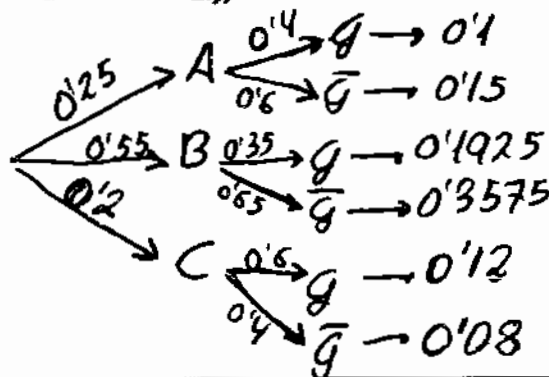
2) $X \sim Bi(5, 0.8)$

a) $P(X=5) = \binom{5}{5} 0.8^5 0.2^0 = \boxed{0.3277}$

b) $P(X \geq 3) = P(X=3) + P(X=4) + P(X=5) = \binom{5}{3} 0.8^3 \cdot 0.2^2 + \binom{5}{4} 0.8^4 \cdot 0.2^1 + 0.3277$
 $= 0.2048 + 0.4096 + 0.3277 = \boxed{0.9421}$

c) $np = 5 \cdot 0.8 = \boxed{4 \text{ pacientes}}$

3) A = niño
B = adulto
C = anciano
G = con gripe



$$a) P(C|G) = \frac{P(C)P(G|C)}{P(G)} = \frac{0'12}{0'1+0'125+0'12} = \boxed{0'291}$$

$$b) P(\bar{G}) = P(A)P(\bar{G}|A) + P(B)P(\bar{G}|B) + P(C)P(\bar{G}|C) = 0'15 + 0'3575 + 0'08 = \boxed{0'587}$$

$$c) P(A|S) = \frac{P(A)P(S|A)}{P(S)} = \frac{0'15}{0'587} = \boxed{0'255}$$

4) a) $X \sim Bi(20, 0'3)$

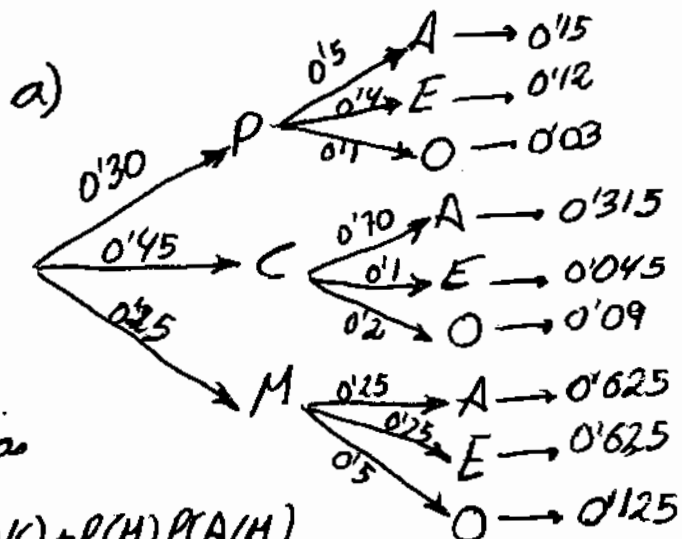
$$P(X=5) = \binom{20}{5} 0'3^5 0'7^{15} = \boxed{0'1788}$$

$$b) P(X \geq 2) = 1 - P(X=0) - P(X=1) = 1 - \binom{20}{0} 0'3^0 0'7^{20} - \binom{20}{1} 0'3^1 0'7^{19} = 1 - 0'0007979 - 0'0068 = \boxed{0'9925}$$

$$c) n \cdot p = 20 \cdot 0'3 = \boxed{6}$$

5) ayuda

- P ≡ jugadores de PC
- C ≡ " de consola
- H ≡ " " móviles
- A ≡ " de acción
- E ≡ " " estrategia
- O ≡ " de otras categorías



$$b) P(A) = P(P)P(A|P) + P(C)P(A|C) + P(M)P(A|M) = 0'15 + 0'315 + 0'0625 = \boxed{0'5275}$$

$$c) P(M|E) = \frac{P(M)P(E|M)}{P(E)} = \frac{0'0625}{0'12 + 0'045 + 0'0625} = \boxed{0'273}$$