

3.43

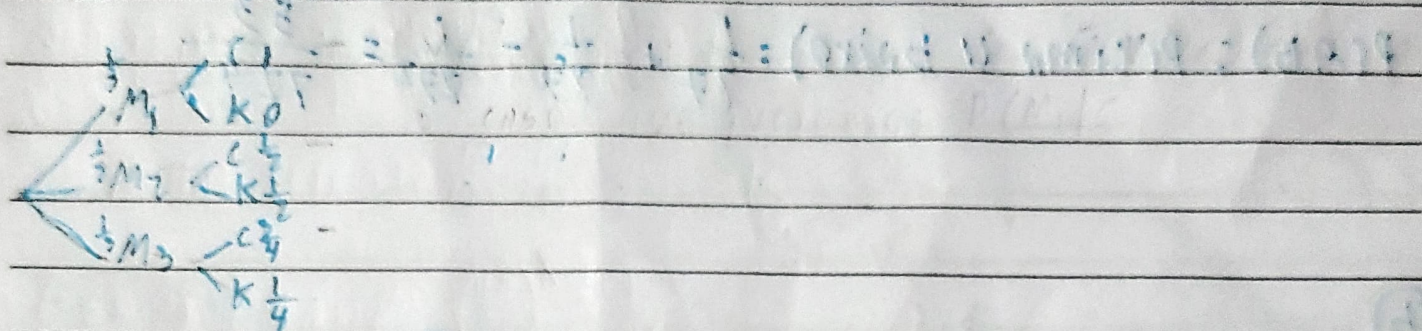
$C = \text{cara}$

$K = \text{coroa}$

$M_1 = 2 \text{ caras}$

$M_2 = \text{honesta}$

$M_3 = 75\% \text{ cara}$



$$P(\text{duas caras} | \text{deu cara}) = \frac{\frac{1}{3} \cdot \frac{1}{3} + \frac{1}{3} \cdot \frac{1}{2} + \frac{1}{3} \cdot \frac{3}{4}}{\frac{1}{3} \cdot \frac{1}{3} + \frac{1}{3} \cdot \frac{1}{2} + \frac{1}{3} \cdot \frac{3}{4}} = \frac{\frac{4}{12} + \frac{2}{12} + \frac{3}{12}}{\frac{4}{12} + \frac{2}{12} + \frac{3}{12}} = \frac{9}{9} = 1$$
$$= \frac{1}{3} \cdot \frac{12}{9} = \frac{4}{9}$$

Teorema de Bayes foi usado no exercício

$$P(\text{duas caras} | \text{deu cara}) = \frac{P(M_1) \cdot P(M_1 | C)}{P(M_1) \cdot P(M_1 | C) + P(M_2) \cdot P(M_2 | C) + P(M_3) \cdot P(M_3 | C)}$$