Calculations for Q3

$P(B|F) = 0.85$
$P(B'|F') = 0.74$
$P(F) = 0.08$

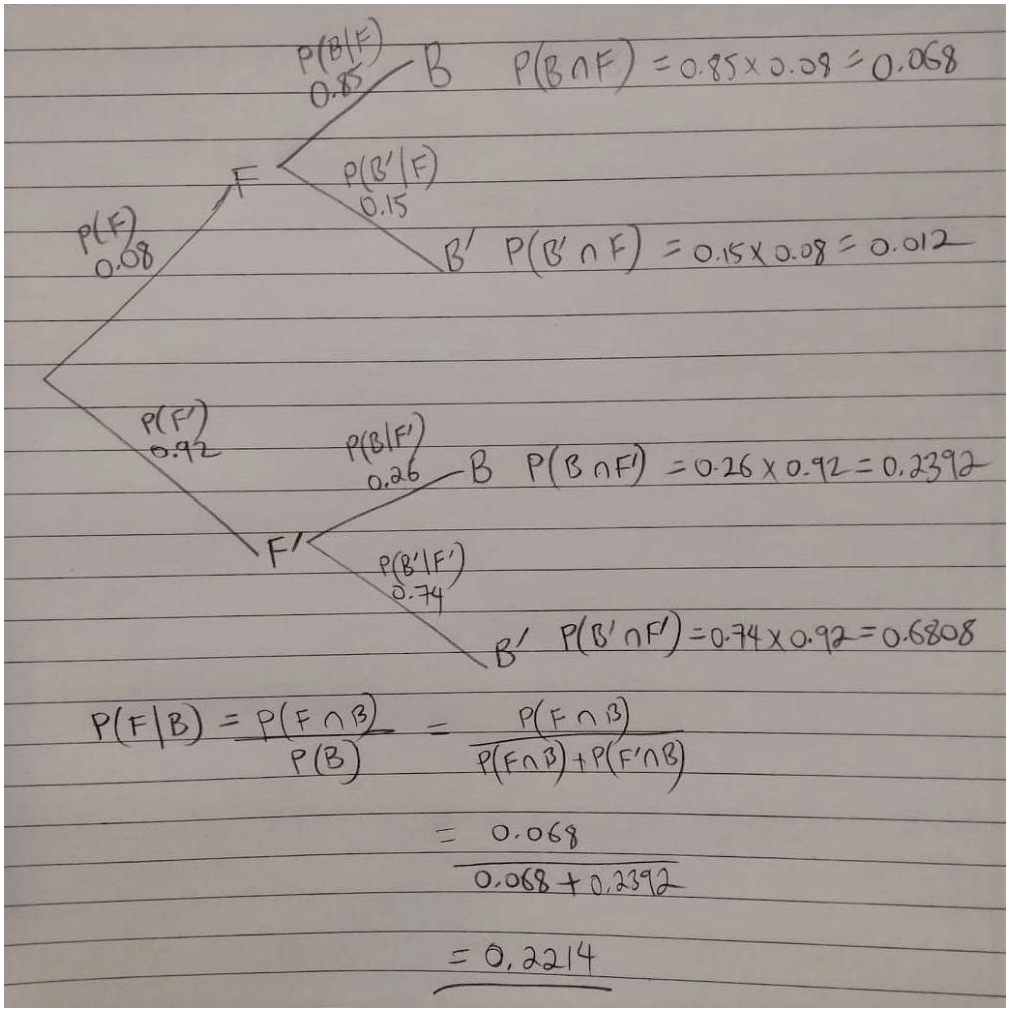
F = fail in 12 months
B = predicted to go bankrupt

$$P(F|B) = \frac{P(B|F) \cdot P(F)}{P(B)}$$

$$= \frac{P(B|F) \cdot P(F)}{P(B \cap F) + P(B \cap F')}$$

$$= \frac{P(B|F) \cdot P(F)}{P(B|F) \cdot P(F) + P(B|F') \cdot P(F')}$$

$$= \frac{0.85 \times 0.08}{0.85 \times 0.08 + 0.26 \times 0.92} = 0.2214$$



$$P(F|B) = \frac{P(F \cap B)}{P(B)} = \frac{P(F \cap B)}{P(F \cap B) + P(F' \cap B)}$$

$$= \frac{0.068}{0.068 + 0.2392}$$

$$= 0.2214$$