$P(A|B) = \frac{P(B|A)P(A)}{P(B)}$ $\quad P(J) = P(J|A) + P(J|\neg A)$

$P(B) = 0.001$

$P(B|J) = \frac{P(J|B)P(B)}{P(J)} = \frac{0.85 \cdot 0.001}{0.05214} =$

$= \frac{0.001}{} \quad = 0.0163$

$P(J) = P(J|A)P(A) + P(J|\neg A)P(\neg A)$

$P(A) = P(A|B \& E)P(B \& E) + P(A|B \& \neg E)P(B \& \neg E)$
$+ P(A|\neg B \& E)P(\neg B \& E) + P(A|\neg B \& \neg E)P(\neg B \& \neg E)$

$= P(A|B \& E)P(B)P(E) + P(A|B \& \neg E)P(B)P(\neg E)$
$+ P(A|\neg B \& E)P(\neg B)P(E) + P(A|\neg B \& \neg E)P(\neg B)P(\neg E)$

$= (0.95)(0.001)(0.002) + (0.94)(0.001)(0.998) +$
$(0.29)(0.999)(0.002) + (0.001)(0.999)(0.998)$
$= 0.002516 = P(A)$

$P(J) = (0.90)(0.002516) + (0.05)P(\neg A)$
$P(J) = 0.05214$

~~$P(J|B) = \frac{P(J \& B)}{P(J)}$~~

~~$P(J|B) = P(A|B \& E) + P(A|B \& \neg E)$~~
~~$P(B \& E) \qquad P(B \& \neg E)$~~