$P(C) = 0,00008$ $P(\check{C}) = 0,99992$

$P(+|C) = 0,98$ $P(-|C) = 1 - 0,98 = 0,02$

$P(+|\check{C}) = 1 - 0,97 = 0,03$ $P(-|\check{C}) = 0,97$

Probability of cancer when test results are positive

$$P(C|+) = \frac{P(+|C) P(C)}{P(+)}$$

$$= \frac{P(+|C) P(C)}{P(+|C) P(C) + P(+|\check{C}) P(\check{C})}$$

$$= \frac{0,98 * 0,00008}{0,98 * 0,00008 + 0,03 * 0,99992}$$

$$= \frac{0,0000784}{0,03076} = 0,0026$$

If the test is positive, there is 0,26% chance that the patient has a cancer

$$P(\neg c \mid +) = \frac{P(+ \mid \neg c)\,(\neg c)}{P(+)}$$

$$= \frac{0,03 * 0,99992}{0,030076}$$

$$= 0,9974$$