2.

(a) $P(wh|ga) = \dfrac{P(ga|wh) \cdot P(wh)}{P(ga)} = \dfrac{0.99 \cdot 0.85}{0.95} = 0.885$

(b) $P(ga|\overline{wh}) = \dfrac{P(\overline{wh}|ga) \cdot P(ga)}{P(\overline{wh})} = \dfrac{(1-0.885) \cdot 0.95}{\cancel{0.8}\ 0.15} = 0.728$

3.

(a) $P(f|h) = \dfrac{P(h|f) \cdot P(f)}{P(h)} = \dfrac{(1) \cdot \frac{1}{n}}{\frac{n+1}{2n}} = \dfrac{\frac{1}{n}}{\frac{n+1}{n}}$

$= \dfrac{1}{n} \cdot \dfrac{n}{n+1}$

$= \dfrac{2}{n+1}$

(b) ?

4.

$\cancel{P(b|sb)}$

$P(i|s) = 0.75$

$P(\overset{b}{\cancel{s}}|s) = \dfrac{P(b) \cdot P(s|b)}{P(s)} \Rightarrow P(b|s) = P(b) \cdot \cancel{\dfrac{0.75}{0.75}}\ 1$

$0.75 = P(b) = 0.75$

(a) no, you don't know the probability that is is blue, just that
it appears blue

(b) yes

$P(b|s) = (1/10) \cdot 0.75 = 0.075$