Count Model:

$Z \times P(g(sam) = W \mid mb) =$

$P(cd(sam) = T \mid gd(sam) = W) \times$

$P(g(sam) = W \mid g(anna)=W, Fr(sam,anna) = T) \times$

$P(g(sam) = W \mid g(bob) = M, Fr(sam,bob) = T)$

$= 70\% \times 60\% \times 40\% = 0.168.$

Frequency Model:

$Z \times P(g(sam) = W \mid mb) =$

$70\% \times (60\% \times 40\%)^{1/2} =$

$0.34 = \exp(-1.07).$