

3a

The denominator in this formula can typically be ignored when comparing conditional probabilities which tends to be the primary usage for using the formula

$$(3b) \quad \frac{p(y|x)}{p(x|y)p(y)} = \frac{\sum_i p(x|y)p(y)}{p(x|y)p(y)}$$

$$\begin{aligned} p(\text{mSkill} = \text{medium} | \text{win} = \text{yes}) &= 4/9 \\ p(\text{oSkill} = \text{low} | \text{win} = \text{yes}) &= 3/9 \\ p(\text{oRank} = \text{normal} | \text{win} = \text{yes}) &= 6/9 \\ p(\text{mRank} = \text{normal} | \text{win} = \text{yes}) &= 2/9 \end{aligned}$$

~~$p(\text{mSkill} = \text{medium} | \text{win} = \text{yes}) = 4/9$~~

$$0.0167 \times \text{scribble} = \frac{1}{9} \times \frac{1}{6} \times \frac{1}{3} \times \frac{1}{4}$$