

# Naïve Bayes: Step 2

#4 Posterior Probability

✓ #3 Likelihood

✓ #1 Prior Probability

$$P(Drives|X) = \frac{\frac{1}{20} * \frac{20}{30}}{\frac{4}{30}} = 0.25$$

✓ #2 Marginal Likelihood

The diagram illustrates the calculation of the Posterior Probability, labeled as #4. It shows the formula  $P(Drives|X) = \frac{\frac{1}{20} * \frac{20}{30}}{\frac{4}{30}} = 0.25$ . Arrows point from the labels to the corresponding parts of the formula: #1 (Prior Probability) points to  $\frac{20}{30}$ , #2 (Marginal Likelihood) points to the denominator  $\frac{4}{30}$ , #3 (Likelihood) points to  $\frac{1}{20}$ , and #4 (Posterior Probability) points to the entire expression. Green checkmarks are placed next to labels #1, #2, and #3.