

Compute Probability Using Data

Let's **use symbols** for the events:

M \equiv **making the point**

E \equiv **point is 8**

To find the answer, we apply Bayes' Theorem:

$$\text{prob}(\mathbf{M \ AND \ E}) = \text{prob}(\mathbf{M|E}) \times \text{prob}(\mathbf{E})$$

Rewriting,

$$\text{prob}(\mathbf{M|E}) = \text{prob}(\mathbf{M \ AND \ E}) / \text{prob}(\mathbf{E})$$

We can **compute** the two numbers on the right **from our data**.