

# Data Give a Good Estimate to the Correct Answer

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Plugging in,

$$\begin{aligned}\text{prob}(\mathbf{M}|\mathbf{E}) &= \text{prob}(\mathbf{M} \text{ AND } \mathbf{E}) / \text{prob}(\mathbf{E}) \\ &= \mathbf{0.09652} / \mathbf{0.21137} = \mathbf{0.4566}\end{aligned}$$

If we instead

- **calculate analytically**, assuming fair dice,
- we obtain **0.4545**,
- so that's a pretty good estimate.

Let's consider a more complex example.