GOALS

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- **Sample**: make inferences from the target

$$X \sim \pi$$

- **Probabilities**: probability of a region $A \subset \mathbb{X}$

$$\pi[X \in A] = \int_A \pi(x) \mathrm{d}x$$

- **Expectations**: given $f : \mathbb{X} \to \mathbb{R}$

$$\pi[f] = \int_{\mathbb{X}} f(x)\pi(x)\mathrm{d}x$$

- **Normalising constant:**

$$Z = \int_{\mathbb{X}} \gamma(x) \mathrm{d}x$$

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EXAMPLE: BAYESIAN STATISTICS