

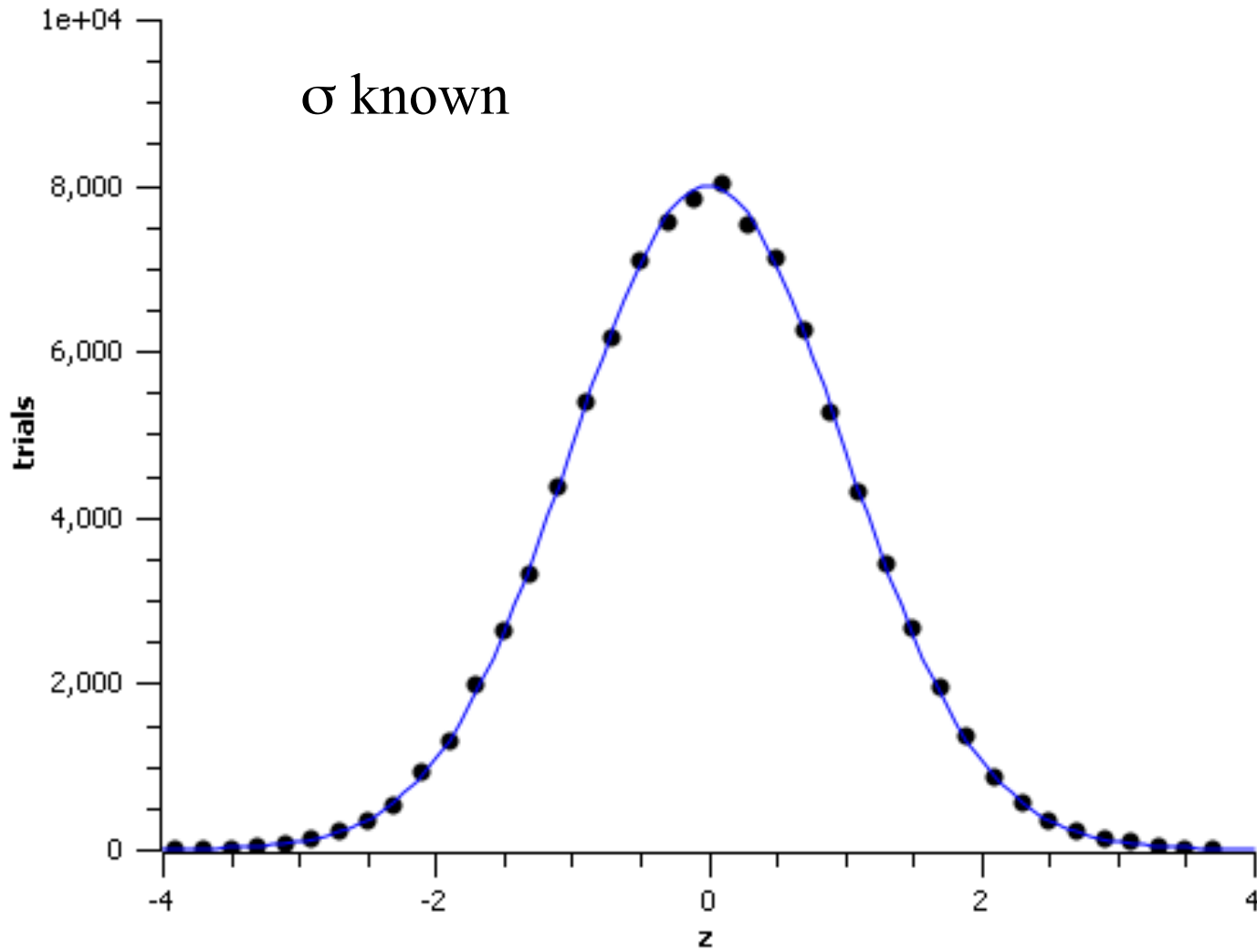
# MC Data Mean and Sigma of 2 Gaussians $\mu = 0.0$ $\sigma = 3.0$ 100,000 Trials

$$n = 2$$

$$z = \frac{(\bar{x} - \mu)}{\frac{\sigma}{\sqrt{n}}} = \frac{(x_1 + x_2)}{3.0\sqrt{2}}$$

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i = \frac{(x_1 + x_2)}{2}$$

$$f(z) = \frac{1}{\sqrt{2\pi}} e^{-\frac{z^2}{2}}$$



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$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i = \frac{(x_1 + x_2)}{2}$$

$$t = \frac{(\bar{x} - \mu)}{\frac{s}{\sqrt{n}}} = \frac{(x_1 + x_2)}{abs(x_1 - x_2)}$$

$$s^2 = \frac{1}{n-1} \sum_{i=1}^n (x_i - \mu)^2 = \frac{(x_1 - x_2)^2}{2}$$

$$f(t, 0) = \frac{1}{\pi(1+t^2)}$$

