

Both bars displaced:

$$\frac{\sqrt{\textit{anything}}}{\sqrt{\textit{something}}}$$

Somewhat changed, but not made really good with extra {} and ^{}:

$$\frac{\sqrt{\textit{anything}}}{\sqrt{\textit{something}}}$$

Same problem with single-line expression and with and without extra ^{}:

$$\sqrt{\textit{anything}}, \sqrt{\textit{anything}}$$

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