

The diagram illustrates the Gaussian distribution formula $p(x|\mu, \sigma^2) = \frac{1}{\sigma\sqrt{2\pi}} \exp\left\{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2\right\}$ with the following components and labels:

- mean**: Points to μ in the conditional distribution.
- variance**: Points to σ^2 in the conditional distribution.
- normalising constant**: Points to the fraction $\frac{1}{\sigma\sqrt{2\pi}}$, which is highlighted in a light blue box.
- make sure $p(x) > 0$** : Points to the **exp** function, which is highlighted in a light purple box.
- inversely related to $p(x)$** : Points to the negative sign **-** inside the exponent, which is highlighted in a light green box.
- distance between x and μ** : Points to the term $(x - \mu)^2$ inside the exponent, which is highlighted in a light pink box.

The full equation is:
$$p(x|\mu, \sigma^2) = \frac{1}{\sigma\sqrt{2\pi}} \exp\left\{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2\right\}$$