

We have normal distribution with mean 25.2 and standard deviation 0.8:

$$m = 25.2$$

$$\sigma = 0.8$$

And we need to know:

$$P(24.3 < x < 26)$$

$$P(24.3 < x < 26) = \int_{24.3}^{26} f(x) dx$$

$f(x)$ - probability density function

The normal distribution has probability density:

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

Therefore:

$$P(24.3 < x < 26) = \int_{24.3}^{26} \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(x-m)^2}{2\sigma^2}} dx$$

Calculating this integral:

$$P(24.3 < x < 26) = 0.6827 = 68.27\%$$

A normal curve:

