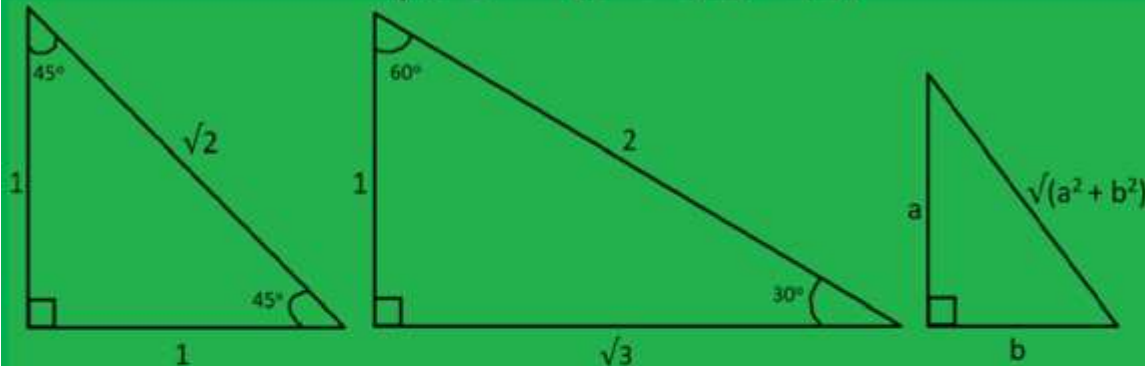


4 Uses Of Square Roots

Geometry: Right Triangles

To find lengths in 2 dimensions
use the distance formula:

$$D = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

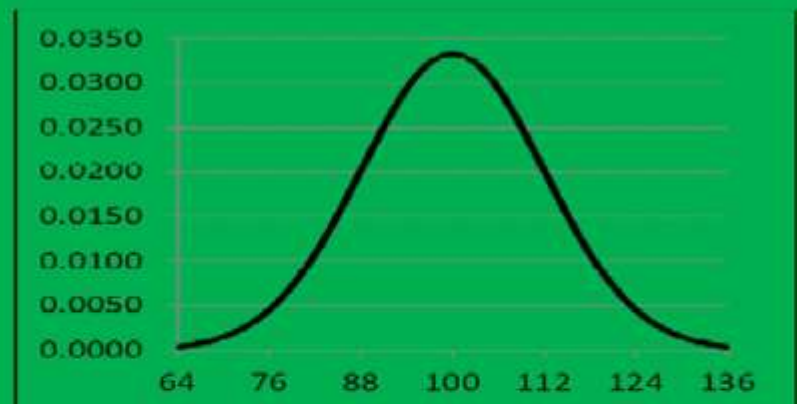


Probability: Normal Distributions

The function for a normal distribution is given by

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

The Gaussian "Bell Curve" looks like this:



Statistics: Standard Deviation

To find standard deviation,
we use the formula:

$$\sigma = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n - 1}}$$

Algebra: Quadratics

To find roots of
 $ax^2 + bx + c = 0$

use the

Quadratic Formula:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$