

Overview of Distribution in Continuous Variables

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Probability Density Function (PDF) : Describes the probability distribution of continuous variables.

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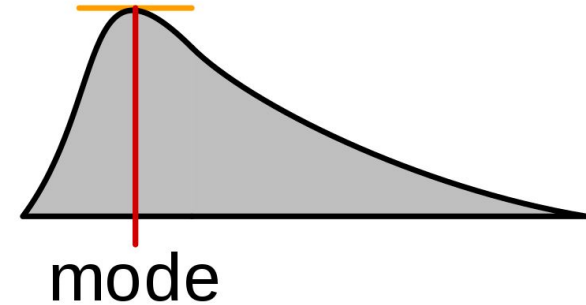
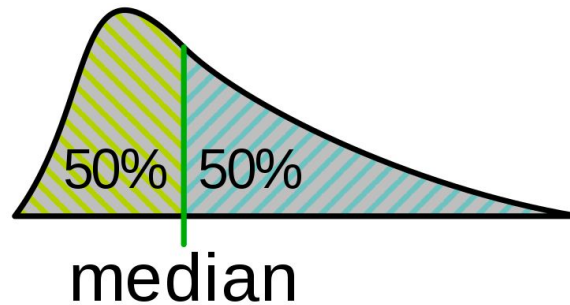
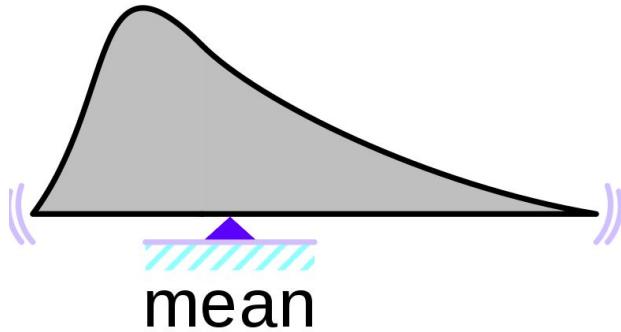
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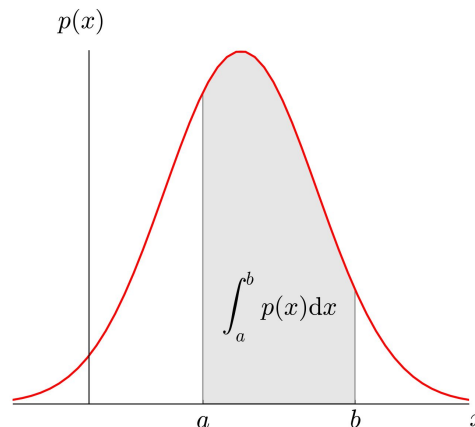
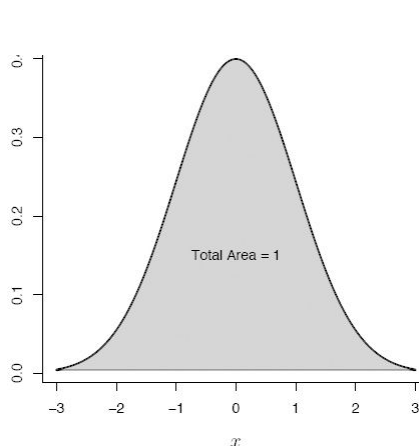
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Probability Density Function

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- The entire area under the curve of the density function is equal to 1.
- Probability is the area under the density function bounded by a and b .

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Uniform Distribution

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The Probability Density Function for Uniform Distribution is :-

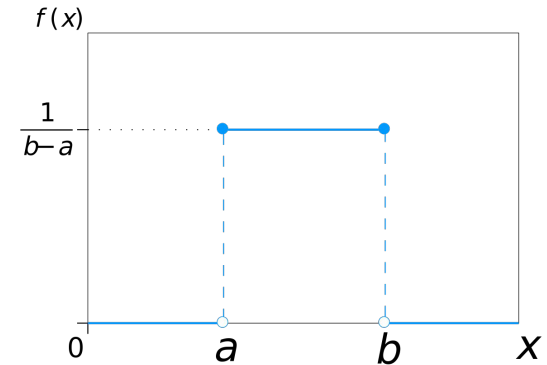
$$f(x) = \begin{cases} \frac{1}{b-a} & \text{if } b \geq x \geq a \\ 0 & \text{otherwise} \end{cases}$$

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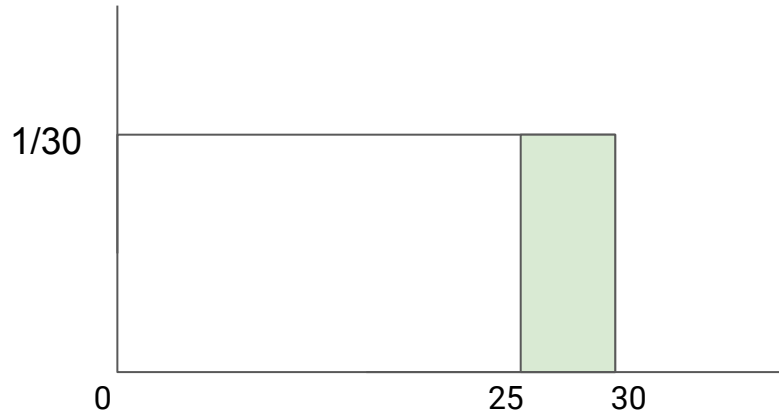
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$$f(x) = \begin{cases} (1/\mu) \cdot e^{-(1/\mu)x} & x \geq 0 \\ 0 & \text{otherwise} \end{cases}$$

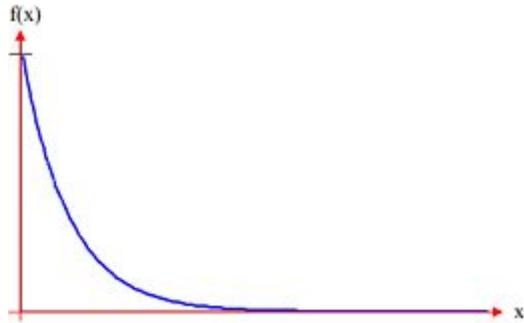
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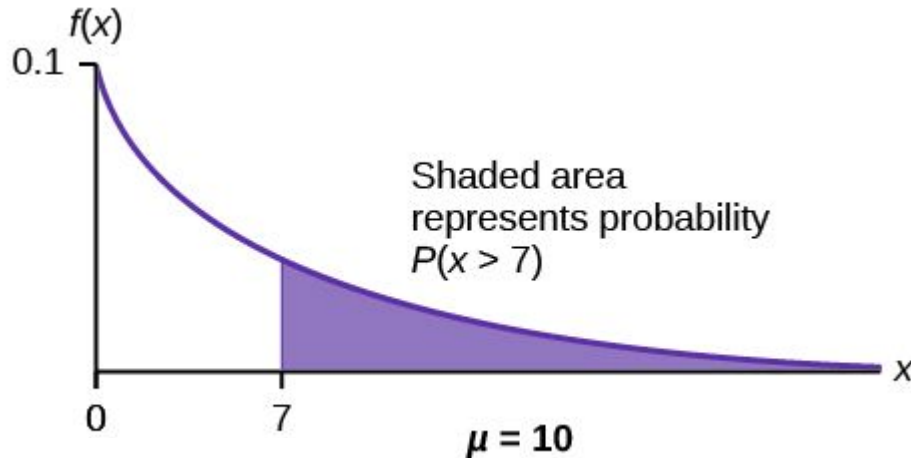
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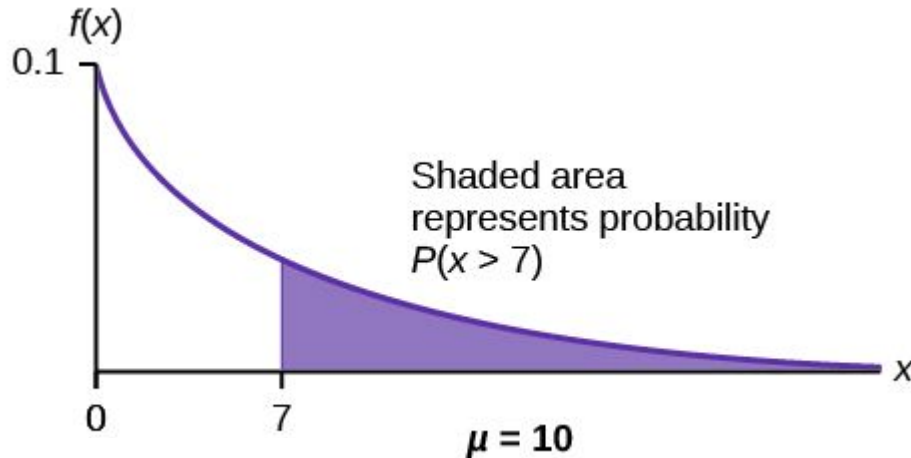
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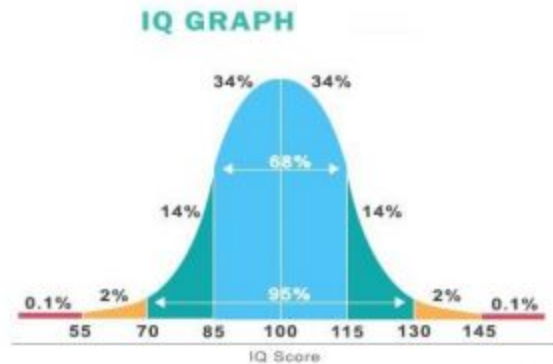
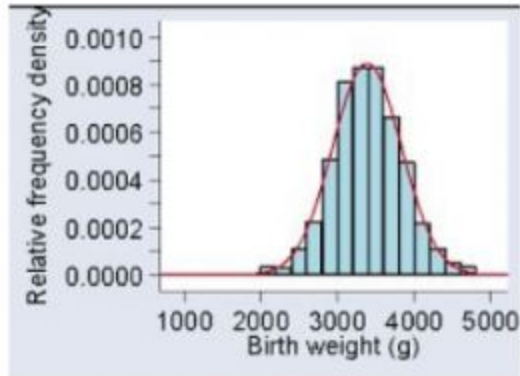
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Ex. Birth Weight, IQ Graph, Stock Price



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Probability Density Function for Normal Distribution is :-

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μ here is Mean Value .

σ here is Variance.

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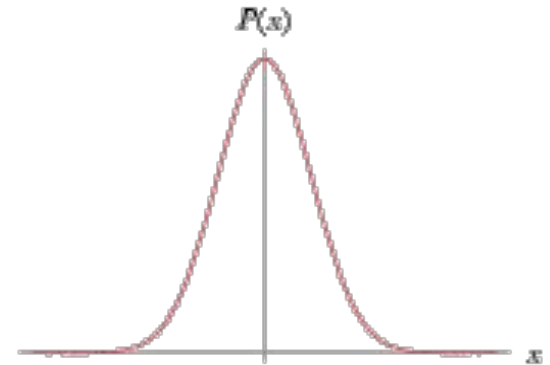
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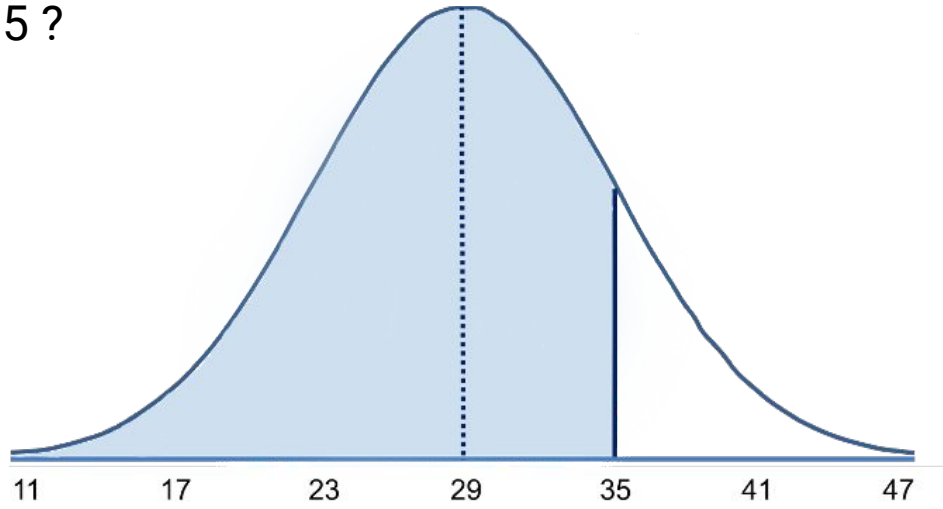
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Thank You!