

3.1 Normal Distributions

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Transformations

- converting raw score to %

Adding only changes the mean by the constant
multiplying changes mean and SD by constant and
variance by constant²
Divide and Subtract are similar

Z-scores

- # of SD above or below mean

$$Z_i = (x_i - \mu) / \sigma$$

Normal Distribution

- bell shaped
- symmetric about mean
 - mean = mode = median
- tails extend $\pm \infty$
- can be described by equation

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