

6.7: Formula Review

6.1 Introduction

$$X \sim N(\mu, \sigma)$$

μ = the mean; σ = the standard deviation

6.2 The Standard Normal Distribution

$$Z \sim N(0, 1)$$

z = a standardized value (z -score)

mean = 0; standard deviation = 1

To find the observed value, x , when the z -scores is known:

$$x = \mu + (z)\sigma$$

$$z\text{-score: } z = \frac{x-\mu}{\sigma} \text{ or } z = \frac{|x-\mu|}{\sigma}$$

Z = the random variable for z -scores

$$Z \sim N(0, 1)$$

6.4 Estimating the Binomial with the Normal Distribution

Normal Distribution: $X \sim N(\mu, \sigma)$ where μ is the mean and σ is the standard deviation.

Standard Normal Distribution: $Z \sim N(0, 1)$.

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