4.6: Chapter 4 Formula Review

4.1 Introduction

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

$\mu =$ the mean; $\sigma =$ the standard deviation

4.2 The Standard Normal Distribution

$Z \sim N(0, 1)$

z = a standardized value (z-score)

mean = 0; standard deviation = 1

To find the k^{th} percentile of X when the z-scores is known:
$k = \mu + (z)\sigma$

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

$Z =$ the random variable for z-scores

$Z \sim N(0, 1)$

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

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