1 Numbered Theorems, Definitions, Corollaries, and Lemmas

Theorems can easily be defined:

Corollary 1.0.1. *Let f be a function whose derivative exists at every point, then f is a continuous function.*

Theorem 1.1 (Pythagorean Theorem)**.** *This is a theorem about right triangles and can be summarized in the next equation: $x^2 + y^2 = z^2$.*

A consequence of Theorem 1.1 is the statement in the next corollary:

Corollary 1.1.1. *There is no right triangle whose sides measure 3 cm, 4 cm, and 6 cm.*

You can reference theorems, such as 1.1, when a label is assigned.

Lemma 1.2. *Given two line segments whose lengths are a and b respectively, there is a real number r such that $b = ra$.*

Definition 1.1 (Absolute Value Function)**.** The absolute value function can be specified as a two-part definition as follows:

$$|x| = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x < 0 \end{cases}$$