

# My Model Document

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## 1 Introduction

Contents of the first section. I am changing the contents of the first section.

## 2 Black Scholes Model Summary

The Black-Scholes formula for pricing a European call option is given by:

$$C = S_0 \Phi(d_1) - K e^{-rT} \Phi(d_2) \quad (1)$$

where

$$d_1 = \frac{\ln(S_0/K) + (r + \sigma^2/2)T}{\sigma\sqrt{T}} \quad (2)$$

$$d_2 = d_1 - \sigma\sqrt{T} \quad (3)$$

Here,  $C$  is the call option price,  $S_0$  is the current stock price,  $K$  is the strike price,  $r$  is the risk-free interest rate,  $\sigma$  is the volatility of the stock,  $T$  is the time to maturity, and  $\Phi$  is the cumulative distribution function of the standard normal distribution.

**Hello World!** Today I am learning L<sup>A</sup>T<sub>E</sub>X. L<sup>A</sup>T<sub>E</sub>X is a great program for writing math. I can write in line math such as  $a^2 + b^2 = c^2$ . I can also give equations their own space:

$$\gamma^2 + \theta^2 = \omega^2 \quad (4)$$

If I do not leave any blank lines L<sup>A</sup>T<sub>E</sub>X will continue this text without making it into a new paragraph. Notice how there was no indentation in the text after equation (1). Also notice how even though I hit enter after that sentence and here ↓ L<sup>A</sup>T<sub>E</sub>X formats the sentence without any break. Also look how it doesn't matter how many spaces I put between my words.

For a new essay I can leave a blank space in my code.

2.1 Quadratic Equations

The general form of a quadratic equation is:

$$ax^2 + bx + c = 0$$

(5)

| ColumnA | ColumnB | ColumnC |
|---------|---------|---------|
| 1       | 2       | 3       |
| 4       | 5       | 6       |

Table 1: Sample Table