Problem Set 1

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Introduction

Provide a brief introduction to the problem set.

Problem 1

Question Statement

State the question clearly.

Solution

Mathematical Explanation

Here is a mathematical equation example:

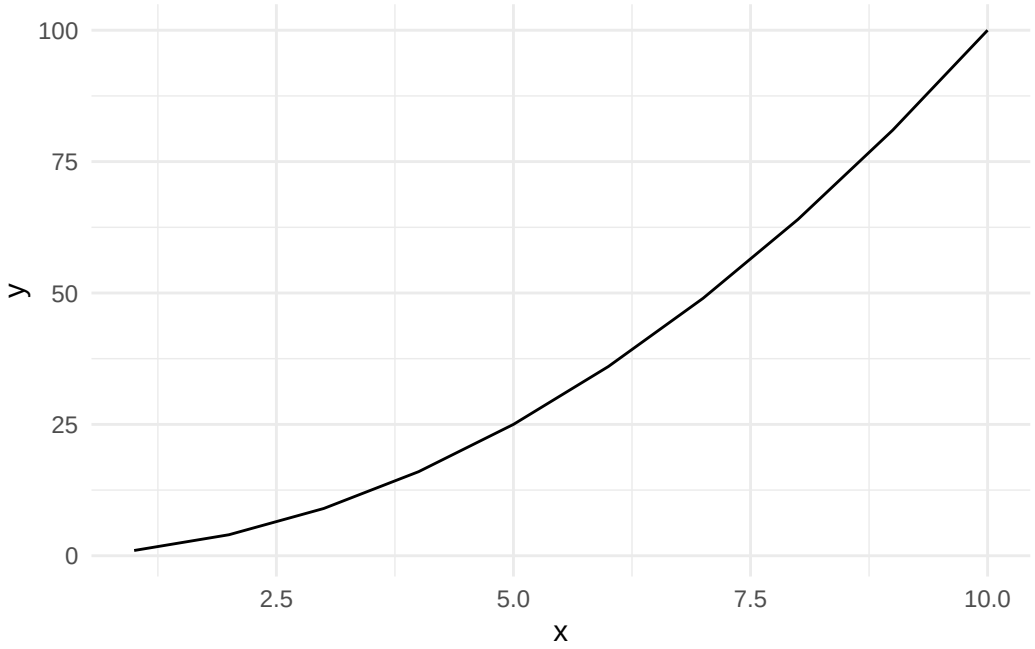
$$\int_0^1 x^2 \, dx = \frac{1}{3}$$

Code Implementation

Using R

```r
# Load libraries
library(ggplot2)

# Example plot
df <- data.frame(x = 1:10, y = (1:10)^2)
ggplot(df, aes(x, y)) + geom_line() + theme_minimal()
```

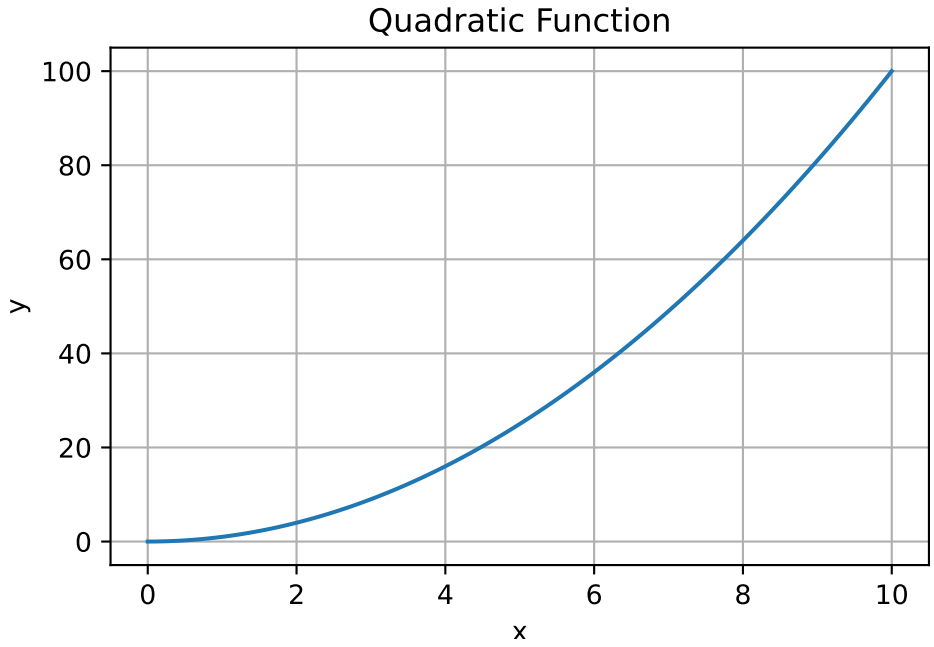


Using Python

```python
import numpy as np
import matplotlib.pyplot as plt

x = np.linspace(0, 10, 100)
y = x**2

plt.plot(x, y)
plt.xlabel("x")
plt.ylabel("y")
plt.title("Quadratic Function")
plt.grid()
plt.show()
```



Problem 2

Repeat structure as needed for additional problems.

Conclusion

Summarize key findings or insights.