

# Oblig 1b: Terningdropp Analysis

Your Name

Date of Submission

## 1 Introduction

Briefly describe the objective of the assignment and the methods used.

## 2 Assignment Questions

### 2.1 Question 2a: First 5 Measurements Regression

```
# Linear Regression on the first 5 measurements in R
lm_first5 <- lm(Lengde ~ Dropp, data=df[1:5, ])
```

**Calculated Regression Line:** Include your manual calculation or calculator output here.

### 2.2 Question 2b: Scatter Plot of Data Points

*Scatter plot of the Dropp vs Lengde data (placeholder image).*

### 2.3 Question 2c: Regression Line Plot

*Scatter plot with regression line (placeholder image).*

### 2.4 Question 2d: Regression Analysis Entire Dataset

```
# Linear Regression on the entire dataset in R
lm_full <- lm(Lengde ~ Dropp, data=df)
```

### 2.5 Question 2e: Sum of Squared Residuals (SSe)

#### 2.5.1 First 5 Measurements

```
ssr_first5 <- sum(residuals(lm_first5)^2)
```

**SSR for First 5 Measurements:**

*SSR =< calculated\_value >*

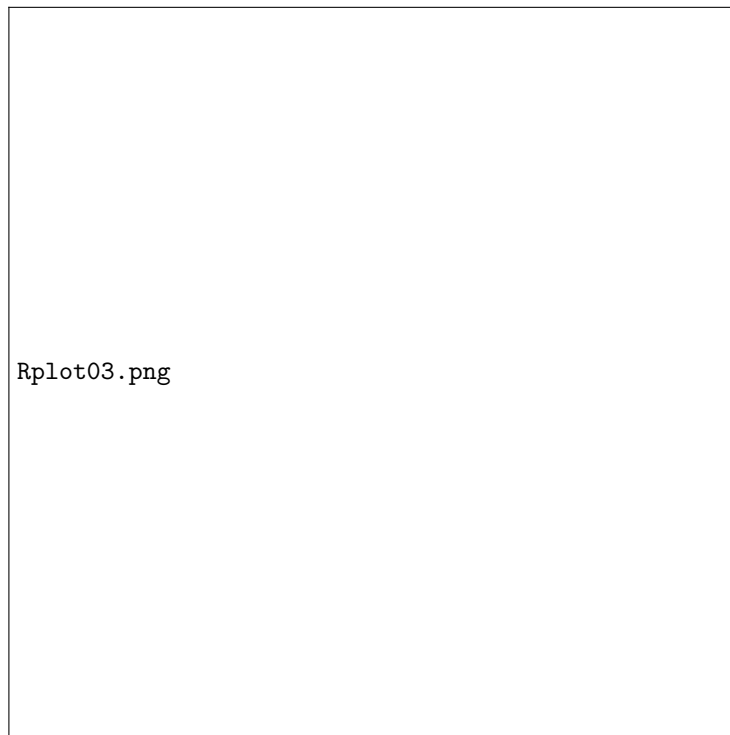


Figure 1: Scatter plot of Dropp vs Lengde

### 2.5.2 Entire Dataset

```
ssr_full <- sum(residuals(lm_full)^2)
```

**SSR for Entire Dataset:**

$$SSR = < calculated\_value >$$

## 2.6 Question 2f: Standard Error (se)

### 2.6.1 First 5 Measurements

```
se_first5 <- sqrt(ssr_first5 / lm_first5$df.residual)
```

**Standard Error for First 5 Measurements:**

$$SE = < calculated\_value >$$

### 2.6.2 Entire Dataset

```
se_full <- sqrt(ssr_full / lm_full$df.residual)
```

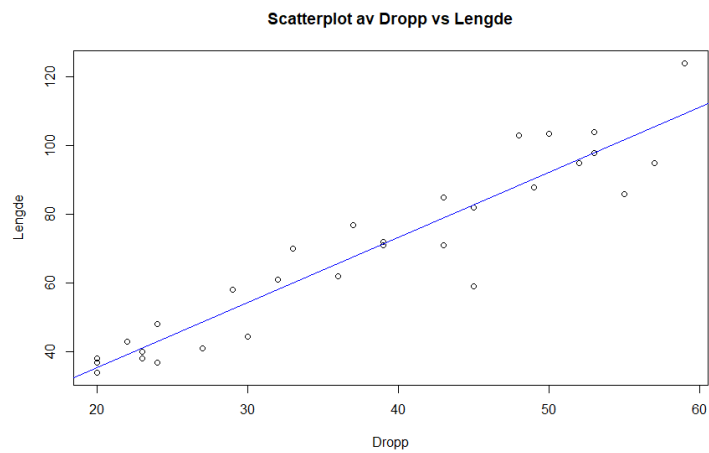


Figure 2: Scatter plot with regression line

**Standard Error for Entire Dataset:**

$$SE = < \text{calculated\_value} >$$

### 3 Conclusion

Summarize your findings and observations from the assignment.