Question 1

g) i) $\hat{\sigma}$ is 0.03724669

```
# i)
muihat <- fitted(model)
sh <- sqrt(sum((residuals(model))^2)/(59-2))
sh
```

ii) $\hat{\alpha}$ is -0.000960536

```
# ii)
xbar <- sum(xi)/59
ybar <- sum(yi)/59
ah <- ybar - bh * xbar
ah
```

iii) $\hat{\beta}$ is 1.119293

```
# iii)
bh <- sxy/sxx
bh
```

iv) se($\hat{\beta}$) is 0.1310296

```
# iv)
se <- sh/sqrt(sxx)
se
```

v) The p-value associated with $H_0: \beta = 0$ is 0.975

```
# v)
pvalue <- pt(t,df)
pvalue
```