A simple linear regression model was fit to data concerned with eruptions of Old Faithful. The response was the duration of the eruption (in minutes) and the explanatory variable was the waiting time since the last eruption (in minutes). The sample mean of waiting time is $\bar{x} = 70.9$ minutes and the sample variance of waiting time is $s_x^2 = 184.96$. Rweb output appears below:

```
Residuals:
     Min       1Q   Median       3Q      Max
-1.29917 -0.37689  0.03508  0.34909  1.19329

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept) -1.874016   0.160143  -11.70   <2e-16
waiting      0.075628   0.002219   34.09   <2e-16

Residual standard error: 0.4965 on 270 degrees of freedom
Multiple R-Squared: 0.8115,     Adjusted R-squared: 0.8108
F-statistic:  1162 on 1 and 270 degrees of freedom,     p-value:     0
```

(a) Give point estimates for σ. (4 pts)

(b) Estimate the mean eruption duration when waiting time is one hour. (3 pts)

(c) Compute a 95% confidence interval for the mean eruption duration when waiting time is one hour. Show all work. (7 pts)