Practice Problems

Problem 11.3:

Consider the following pairs of measurements:

x	5	3	7	2	7	6	4
y	4	3	0	1	8	5	3

We know that $x^2 = 140$, $y^2 = 124$, $xy = 129$, $x = 26$, and $y = 24$.
Calculate SSE, s^2, $\hat{\beta}_1$, $\hat{\beta}_0$.

Problem 11.4:

Based on the following SAS output, identify the following:

(a) $\hat{\beta}_1$

(b) $\hat{\beta}_0$

(c) SSE

(d) s^2

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Model: MODEL1
Dependent Variable: Y
Analysis of Variance

                          Sum of          Mean
Source           DF      Squares        Square      F Value       Prob>F
Model             1    961.00000     961.00000      168.646       0.0002
Error             4     22.79333       5.69833
C Total           5    983.79333

    Root MSE       2.38712     R-square       0.9768
    Dep Mean      64.43333     Adj R-sq       0.9710
    C.V.           3.70479
Parameter Estimates

                 Parameter       Standard    T for H0:
Variable  DF      Estimate          Error   Parameter=0    Prob > |T|
INTERCEP   1     48.933333    1.54087818        31.757        0.0001
X          1     10.333333    0.79570607        12.986        0.0002
```