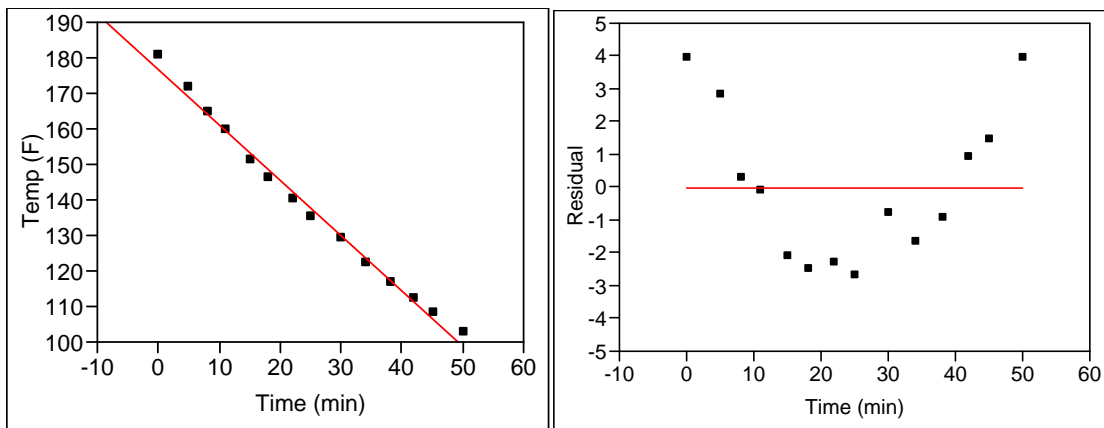


## JMP Output for Cooling Coffee

Time (min)	Temp (F)
0	180.6
5	171.7
8	164.5
11	159.4
15	151.2
18	146.1
22	140.1
25	135.0
30	129.1
34	122.0
38	116.5
42	112.1
45	108.0
50	102.7

### Simple Linear Regression of Temperature on Time



#### Linear Fit

$$\text{Predicted Temp (F)} = 176.68943 - 1.5587521 * \text{Time (min)}$$

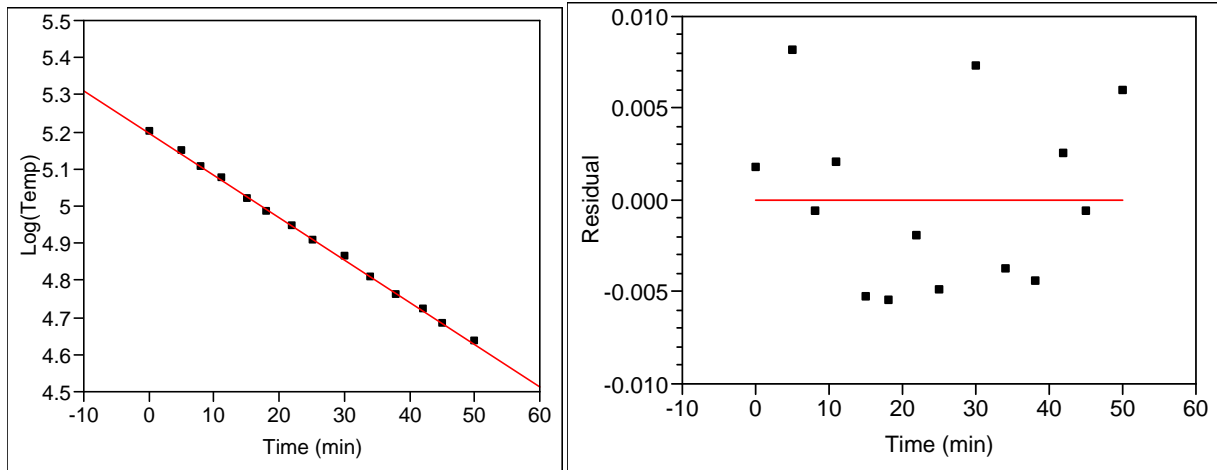
#### Summary of Fit

RSquare	0.991257
RSquare Adj	0.990528
Root Mean Square Error	2.410473
Mean of Response	138.5
Observations (or Sum Wgts)	14

#### Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	176.68943	1.219428	144.90	<.0001
Time (min)	-1.558752	0.04226	-36.89	<.0001

## Simple Linear Regression of Log(Temp) on Time



### Linear Fit

Predicted Log(Temp) = 5.194561 – 0.0113736\*Time (min)

### Summary of Fit

RSquare	0.999314
RSquare Adj	0.999257
Root Mean Square Error	0.004907
Mean of Response	4.915909
Observations (or Sum Wgts)	14

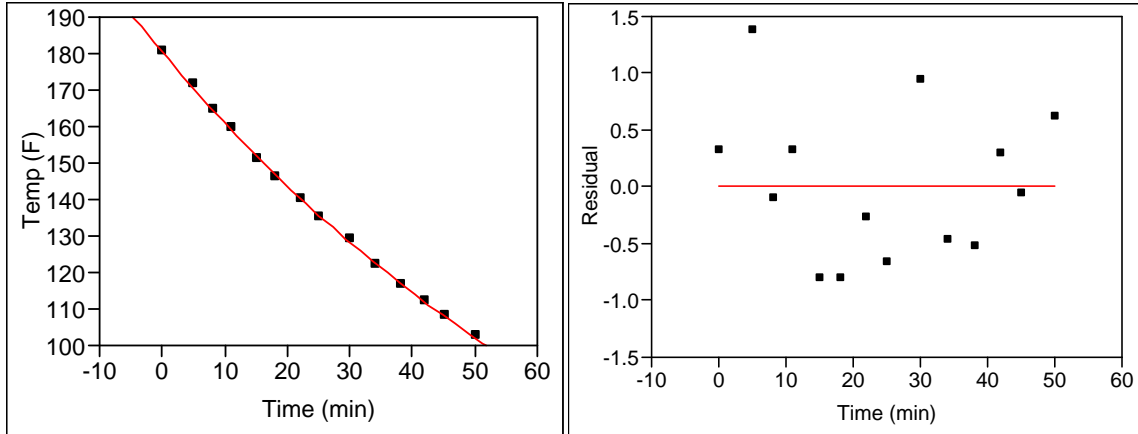
### Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	0.42086624	0.420866	17477.45
Error	12	0.00028897	0.000024	Prob > F
C. Total	13	0.42115521		<.0001

### Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	5.194561	0.002482	2092.5	<.0001
Time (min)	-0.011374	0.000086	-132.2	<.0001

### Fit Special with Log(Temperature) on Time



#### Transformed Fit Log

$$\text{Predicted Log(Temp (F))} = 5.194561 - 0.0113736 * \text{Time (min)}$$

#### Summary of Fit on Log Scale

RSquare	0.999314
RSquare Adj	0.999257
Root Mean Square Error	0.004907
Mean of Response	4.915909
Observations (or Sum Wgts)	14

#### Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	5.194561	0.002482	2092.5	<.0001
Time (min)	-0.011374	0.000086	-132.2	<.0001

#### Prediction Equation on Original Scale

$$\text{Predicted Temp (F)} = 180.3 * e^{-0.0114 * \text{Time (min)}}$$

#### Fit Measured on Original Scale

Sum of Squared Error	5.7605521
Root Mean Square Error	0.6928535
RSquare	0.9992777
Sum of Residuals	0.0815943