

```
In[187]:= Clear[x, y]
```

```
In[188]:= concentration = {.02, .02, .06, .06, .11, .11, .22, .22, .56, .56, 1.1, 1.1}  
velocity = {76, 47, 97, 107, 123, 139, 159, 152, 191, 201, 207, 200}
```

```
Out[188]= {0.02, 0.02, 0.06, 0.06, 0.11, 0.11, 0.22, 0.22, 0.56, 0.56, 1.1, 1.1}
```

```
Out[189]= {76, 47, 97, 107, 123, 139, 159, 152, 191, 201, 207, 200}
```

```
In[190]:= data = Transpose[{concentration, velocity}]
```

```
Out[190]= {{0.02, 76}, {0.02, 47}, {0.06, 97}, {0.06, 107}, {0.11, 123}, {0.11, 139},  
{0.22, 159}, {0.22, 152}, {0.56, 191}, {0.56, 201}, {1.1, 207}, {1.1, 200}}
```

```
In[191]:= lm = LinearModelFit[data, x, x]  
lm["ParameterTable"]  
lm["AdjustedRSquared"]  
lm["ANOVATable"]  
lm["ParameterConfidenceIntervals"]
```

```
Out[191]= FittedModel[103.488 + 110.421 x]
```

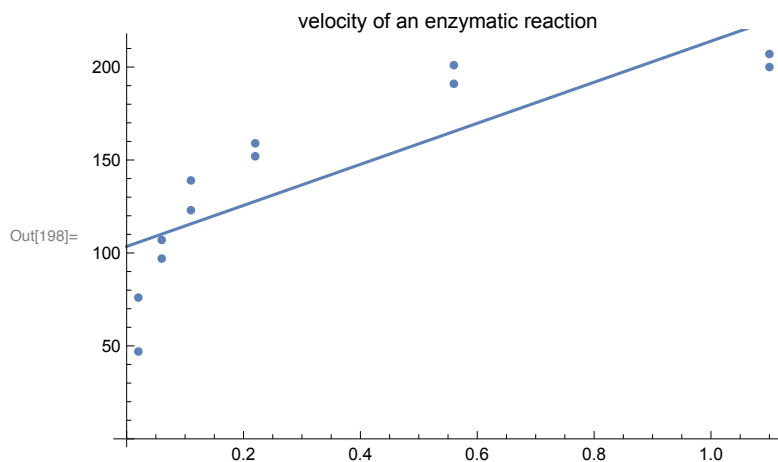
	Estimate	Standard Error	t-Statistic	P-Value
1	103.488	12.0238	8.60696	$6.17113 \times 10^{-6}$
x	110.421	23.371	4.7247	0.000810647

```
Out[193]= 0.659683
```

	DF	SS	MS	F-Statistic	P-Value
x	1	21311.8	21311.8	22.3228	0.000810647
Error	10	9547.1	954.71		
Total	11	30858.9			

```
Out[195]= {{76.6974, 130.279}, {58.3472, 162.495}}
```

```
In[196]:= p1 = ListPlot[data, PlotLabel -> "velocity of an enzymatic reaction"];  
p2 = Plot[lm[x], {x, 0, 1.2}];  
Show[p1, p2]
```



```
In[199]:= nlm = NonlinearModelFit[data, a c / (b + c), {a, b}, c]
          nlm["ParameterTable"]
          nlm["AdjustedRSquared"]
          nlm["ANOVATable"]
          nlm["ParameterConfidenceIntervals"]
```

```
Out[199]= FittedModel[ $\frac{212.684 c}{0.0641213 + c}$ ]
```

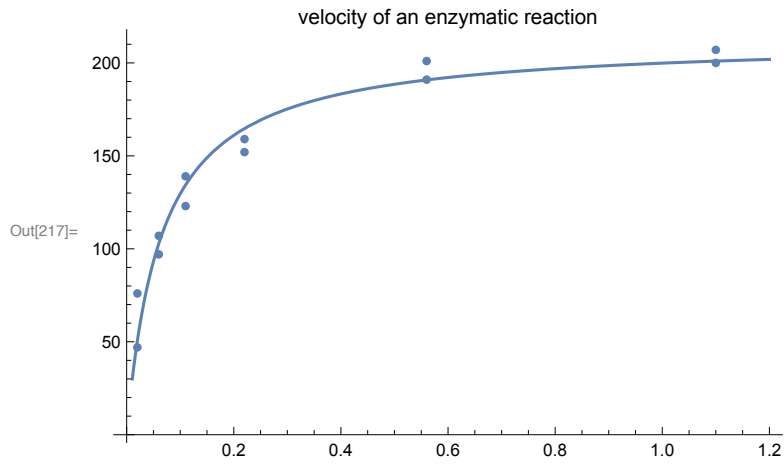
	Estimate	Standard Error	t-Statistic	P-Value
Out[200]= a	212.684	6.94716	30.6145	$3.24116 \times 10^{-11}$
b	0.0641213	0.00828095	7.74323	0.0000156513

```
Out[201]= 0.994714
```

	DF	SS	MS
Out[202]= Model	2	270214.	135107.
Error	10	1195.45	119.545
Uncorrected Total	12	271409.	
Corrected Total	11	30858.9	

```
Out[203]= {{197.205, 228.163}, {0.0456702, 0.0825724}}
```

```
In[216]:= p2 = Plot[nlm[x], {x, 0.01, 1.2}, PlotRange -> {30, 210}];
          Show[p1, p2, PlotRange -> All]
```



```
Out[217]=
```

```
In[218]:= ListPlot[Transpose[{concentration, nlm["FitResiduals"]}]]
```

