1. dependent = strength
   indep = const 1, agg , add, temp, cure

2. The estimated strength for a mix
   agg = .3 add = 6.3 temp = 47 cure = 12
   is $\hat{y} = \sum \hat{b}\, x = 28.2\ 1 + 1.22\ .3 + 2.31\ 6.3 + .26\ 47 + .36\ 12 = 59.659$

```
In[90]:= {28.2, 1.22, 2.31, 0.26, 0.36}.{1, .3, 6.3, 47, 12}
Out[90]= 59.659
```

3. Fraction of s_y^2 explained by regression on the independent variables is $R^2 = .64$.

```
In[91]:= .8^2
Out[91]= 0.64
```

4. If the plot is elliptical the distribution y for every specification of the independent variables is normal with
mean = 59.659
sd = Sqrt[1 - .8^2] s_y = 0.6 s_y (s_y was not given)

5. For large n, if the normal probability plot of the residuals y - $\hat{y}$ is close to a straight line this is sometimes taken as evided that the CI to follow can be employed.

6. 95% CI for betaHATcure = 0.36 + /- 1.96 Sqrt[78.79] = {-17.0377, 17.7577} if the sample size is large and specified assumptions on the errors of regression are made.

```
In[93]:= 0.36 + {-1, 1} 1.96 Sqrt[78.79]
Out[93]= {-17.0377, 17.7577}
```