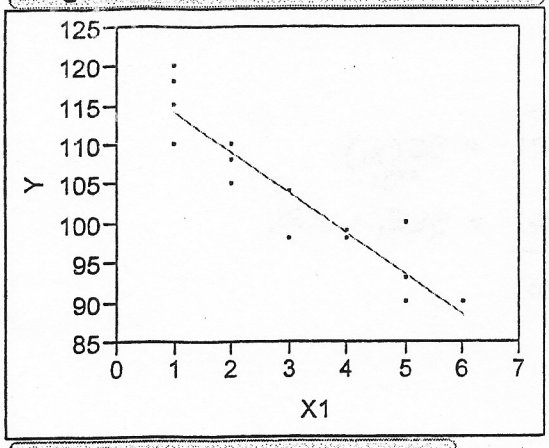
471OrdAgeIQ- Fit Least Squares

## Response Y

### Regression Plot




### Summary of Fit

| | |
|---|---|
| RSquare | 0.862645 |
| RSquare Adj | 0.85208 |
| Root Mean Square Error | 3.688612 |
| Mean of Response | 103.8667 |
| Observations (or Sum Wgts) | 15 |

### Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Ratio |
|---|---|---|---|---|
| Model | 1 | 1110.8571 | 1110.86 | 81.6455 |
| Error | 13 | 176.8762 | 13.61 | Prob > F |
| C. Total | 14 | 1287.7333 | | <.0001* |

### Parameter Estimates

| Term | Estimate | Std Error | t Ratio | Prob>\|t\| |
|---|---|---|---|---|
| Intercept | 119.29524 | 1.955147 | 61.02 | <.0001* |
| X1 | -5.142857 | 0.569165 | -9.04 | <.0001* |

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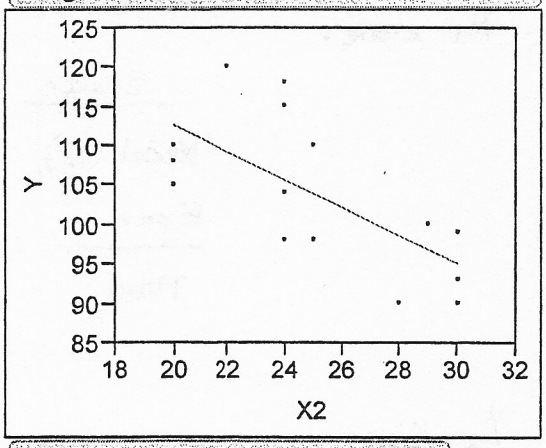
## Response Y

### Regression Plot




### Summary of Fit

| | |
|---|---|
| RSquare | 0.449826 |
| RSquare Adj | 0.407504 |
| Root Mean Square Error | 7.382297 |
| Mean of Response | 103.8667 |
| Observations (or Sum Wgts) | 15 |

### Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Ratio |
|---|---|---|---|---|
| Model | 1 | 579.2553 | 579.255 | 10.6289 |
| Error | 13 | 708.4780 | 54.498 | Prob > F |
| C. Total | 14 | 1287.7333 | | 0.0062* |

### Parameter Estimates

| Term | Estimate | Std Error | t Ratio | Prob>\|t\| |
|---|---|---|---|---|
| Intercept | 147.74965 | 13.59452 | 10.87 | <.0001* |
| X2 | -1.755319 | 0.538409 | -3.26 | 0.0062* |

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## Response Y

### Summary of Fit

| | |
|---|---|
| RSquare | 0.863464 |
| RSquare Adj | 0.840708 |
| Root Mean Square Error | 3.827766 |
| Mean of Response | 103.8667 |
| Observations (or Sum Wgts) | 15 |

### Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Ratio |
|---|---|---|---|---|
| Model | 2 | 1111.9119 | 555.956 | 37.9446 |
| Error | 12 | 175.8215 | 14.652 | Prob > F |
| C. Total | 14 | 1287.7333 | | <.0001* |

### Parameter Estimates

| Term | Estimate | Std Error | t Ratio | Prob>\|t\| |
|---|---|---|---|---|
| Intercept | 117.02599 | 8.697772 | 13.45 | <.0001* |
| X1 | -5.318644 | 0.88211 | -6.03 | <.0001* |
| X2 | 0.1118644 | 0.416935 | 0.27 | 0.7930 |

# Summary

$X_1$ alone:

| Source | df | SS | |
|---|---|---|---|
| Model ($X_1$) | 1 | 1110.8571 | $= SS_{reg_1}(X_1)$ |
| Error | 13 | 176.8762 | $= SSE_1 = RSS_1$ |
| Total | 14 | 1287.7333 | |

$X_2$ alone:

| Source | df | SS | |
|---|---|---|---|
| Model ($X_2$) | 1 | 579.2553 | $= SS_{reg_2}(X_2)$ |
| Error | 13 | 708.4780 | $= SSE_2 = RSS_2$ |
| Total | 14 | 1287.7333 | |

$X_1$ and $X_2$:

| Source | df | SS | |
|---|---|---|---|
| Model ($X_1, X_2$) | 2 | 1111.9119 | $= SS_{reg_{1,2}}(X_1, X_2)$ |
| Error | 12 | 175.8215 | $= SSE_{1,2} = RSS_{1,2}$ |
| Total | 14 | 1287.7333 | |