

### Original Data Set

| x    | y     |                              |
|------|-------|------------------------------|
| 1.04 | 0.02  |                              |
| 5.2  | 0.094 | $y_{\text{unknown}} = 0.241$ |
| 10.4 | 0.24  |                              |
| 26   | 0.49  |                              |
| 52   | 1.1   |                              |
| 104  | 2.02  |                              |

| D = 46535.8<br>$s_y = 0.04411$<br>$R^2 = 0.99739$ | value   | std. dev. | % relative uncertainty |
|---|---------|-----------|------------------------|
| m   | 0.0196  | 0.001     | 2.5593                 |
| b   | 0.0127  | 0.024     | 192.12                 |
| x   | 11.6632 | 2.4956    | 21.397                 |

| 95% Confidence Intervals |        | t = | 2.7764 |
|--------------------------|--------|-----|--------|
| m=                       | 0.0196 | +/- | 0.0014 |
| b=                       | 0.0127 | +/- | 0.068  |
| $X_{\text{unk}}=$        | 11.663 | +/- | 6.9289 |

### "New" Data Set

| x    | y    |                             |
|------|------|-----------------------------|
| 0.56 | 1.02 |                             |
| 1.02 | 2.45 | $y_{\text{unknown}} = 11.1$ |
| 3.45 | 6.63 |                             |
| 9.84 | 19.8 |                             |
| 22.3 | 42.1 |                             |

| D = 1655.25<br>$s_y = 0.61025$<br>$R^2 = 0.99905$ | value  | std. dev. | % relative uncertainty |
|---|--------|-----------|------------------------|
| m   | 1.8860 | 0.034     | 1.7784                 |
| b   | 0.3795 | 0.370     | 97.395                 |
| x   | 5.6843 | 0.35582   | 6.2597                 |

| 95% Confidence Intervals |        | t = | 3.1824 |
|--------------------------|--------|-----|--------|
| m=                       | 1.886  | +/- | 0.1067 |
| b=                       | 0.3795 | +/- | 1.1764 |
| $X_{\text{unk}}=$        | 5.6843 | +/- | 1.1324 |