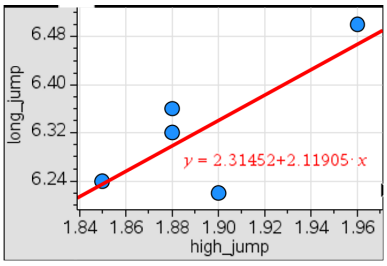
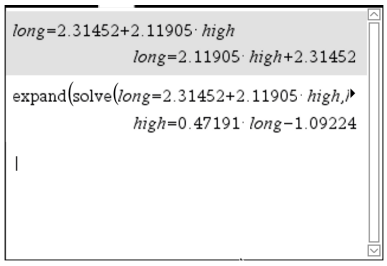
CIMT Statistics p234 Example



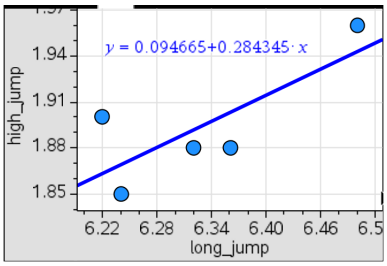
Used for predicting
Long Jump distance
from
High Jump.

Long=2.31452+2.11905×High



From the left, we have the equation
Long=2.31452+2.11905×High

When algebraically rearranged, we obtain:
High=-1.09224+0.47191×Long
which is **not** the same as the equation on the right.



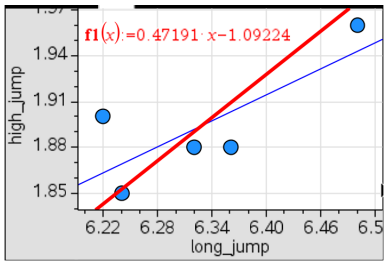
Used for predicting
High Jump height
From
Long Jump.

High=0.094665+0.284345×Long

Competitor G

Predicted long jump:

Long=2.31452+2.11905×1.92
= 6.38m



Plotting both regression lines on the same axes, you can see their difference.

Competitor F

Predicted high jump:

High=0.094665+0.284345×6.44
= 1.93m

Note: in the above example, we have not attempted to verify that the linear regression was indeed appropriate. It seems a bit of a long shot, and we'd be for the high jump if we didn't do the usual checks. In fact, it turns out that r=0.77, the p-value for the hypothesis tests (on both ρ and β) is 12%, so we'd conclude that it was not linear, the line was not useful for prediction. Unsurprisingly, the residual plot is a disaster too … why not check it out yourself?!