Worksheet 3 - regression lines

Wednesday, January 28, 2026

Math 58B - Jo Hardin

Name: _____

Names of people you worked with: _____

Introduce yourself. What did you do last Saturday? (No need to write down anything.)

Task: Use the following link to get to the regression applet: http://www.rossmanchance.com/applets/2021/regshuffle/regshuffle.htm

1. Click on "show movable line"
2. Click on "show residuals"
    a. Move the line around until you get SAE (sum of absolute errors) as small as possible.
    b. Write down the value you got for SAE.
    c. Write down the line you got which minimized the SAE.
3. Unclick "show residuals" and click on "show squared residuals"
    a. Move the line around until you get SSE (sum of squared errors) as small as possible.
    b. Write down the value you got for SSE.
    c. Write down the line you got which minimized the SSE.
4. Were the SAE and SSE lines the same? Should they be?

Solution:

1. done
2. a. done
   b. SAE = 51.00
   c. $\widehat{\text{height}}$ = 42.95 + 0.86*footlength
3. a. done
   b. SSE = 235.19
   c. $\widehat{\text{height}}$ = 38.49 + 1.02*footlength
4. No, the lines shouldn't be the same because they solve different optimization problems.