Notes for Data Generated Activities

Sizing Up – There is usually no association between height and foot length.
The foot length and forearm length are approximately equal.

Lid Experiment - Number the lids so students can pass them between groups and still be sure they haven't missed a measurement. Have students calculate $L_3 = L_2/L_1$ and look at how close those values are to π.

The Price is Right - Have 10 familiar items with known price. If every answer is correct, the line of best fit is $y = x$. Over estimators will have more points above the line, while under estimators will have more points below the line.

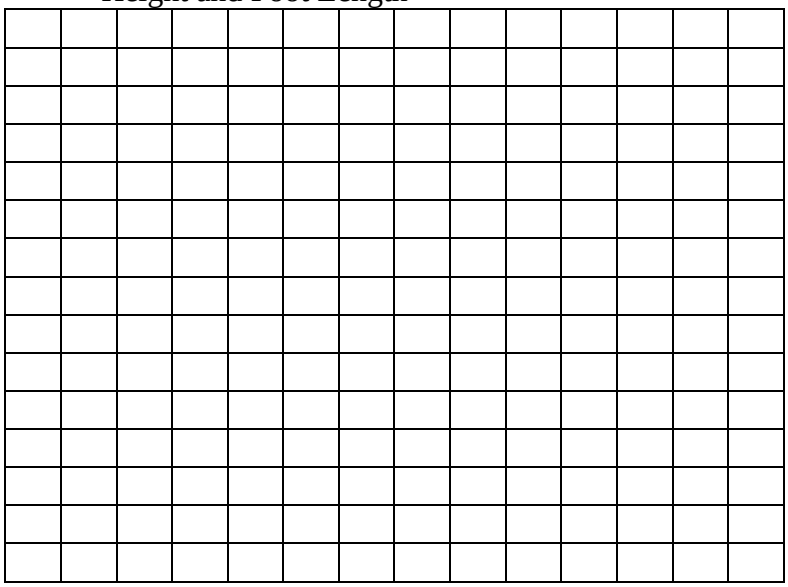
Sizing Up

1. Find the height, foot length, and forearm length (from wrist bone to elbow) for every member of the class. Enter the data in the table below.

Height (in cm)	Foot (in cm)	Forearm (in cm)

2. Make a scatter plot using the height and foot length data on the grid below.

Height and Foot Length



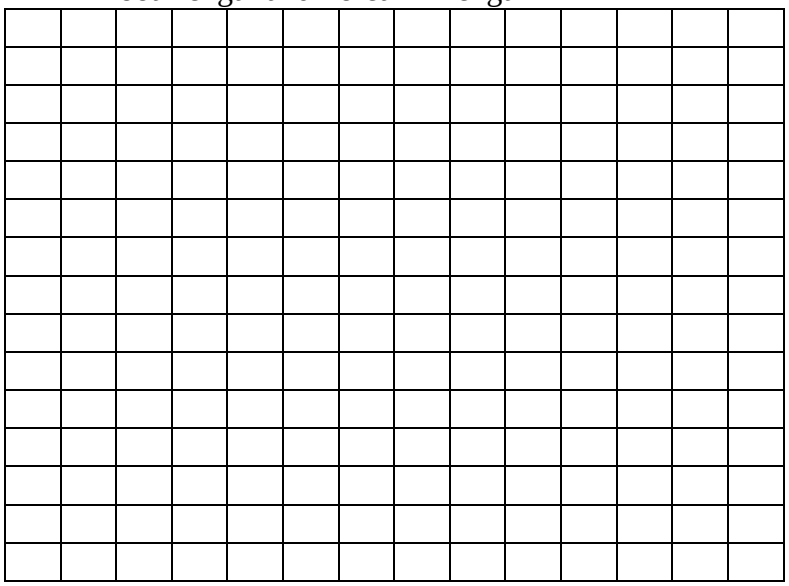
3. Write an equation of a line of best fit and draw the line on the grid above. Use mathematics to explain how you determined your equation. Use words, symbols, or both in your explanation.

4. Substitute your height in for x in the equation and round the foot length to the nearest centimeter. How close is this to your actual foot length?

5. Do you think it would be reasonable to sell shoes by a person's height? Use mathematics to justify your answer.

6. Make a scatter plot using the foot length and forearm length data on the grid below.

Foot Length and Forearm Length



7. Write an equation for a line of best fit and draw the line on the grid above.

8. Comparing the two graphs, which has a stronger association? Use mathematics to justify your answer.

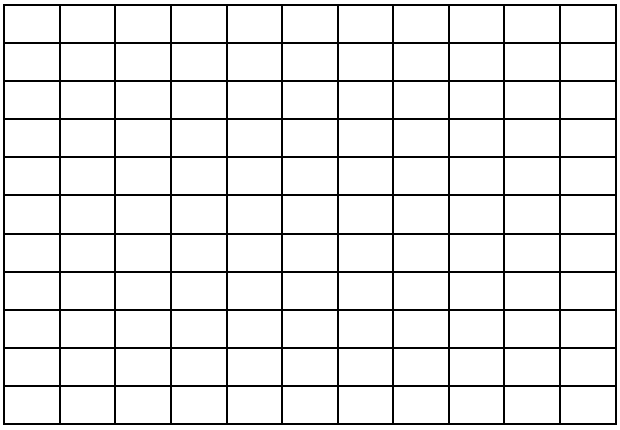
9. According to the Guinness Book of World Records, the tallest person who ever lived was Robert Wadlow, who was 272cm tall. Use your equation to predict Robert's forearm length.

Lid Experiment

1. Find the diameter and circumference of the various lids. Record your results in the table below. Express you answer in decimal form, to the nearest mm.

Diameter (cm)	Circumference (cm)

2. Make scatter plot for the data on the grid below.



3. Use a straight edge to draw a line of best fit for the data.

4. Describe the relationship between the diameter and the circumference of the lids. Use mathematics to justify your answer.

5. Write an equation for the line of best fit.

6. Is this line a good model for this data? Use mathematics to justify your answer.

7. Predict what the diameter of a lid would be if the circumference was 75 cm.

8. The diameter of a quarter is 2.3 cm. Using your equation, determine the circumference of the mold to mint this coin.