

Unit 5 - Two-Variable Statistics - Formative Task A

Scattered Skeletons

You and your friends are walking by an abandoned lot when you see something strange in the grass. Sticking out of the grass you see what appears to be a human bone! You dig it up and start analyzing the bone. It seems to be a forearm bone, but you aren't sure. You wonder if the bone is evidence that could help the police solve an old case. You decide to use your Algebra skills to help the police identify the bone.

Task A: Collect data and make a prediction about the height of the missing person.



Section 1:

- a. With a partner, measure the length of your forearm and measure your height (in cm).

Forearm =

Height =

- a. How many times taller are you than the length of your forearm? Do you think that other students will find the same multiple?

Section 2:

- a. You will need to collect more data to make a prediction about the bone you found. Share your data with other students and collect 10 forearm lengths and heights from other students. Let **x** stand for the forearm length and **y** represent their height.

Initials										
x										
y										

- b. Calculate the mean forearm length and the mean height for the data you collected.

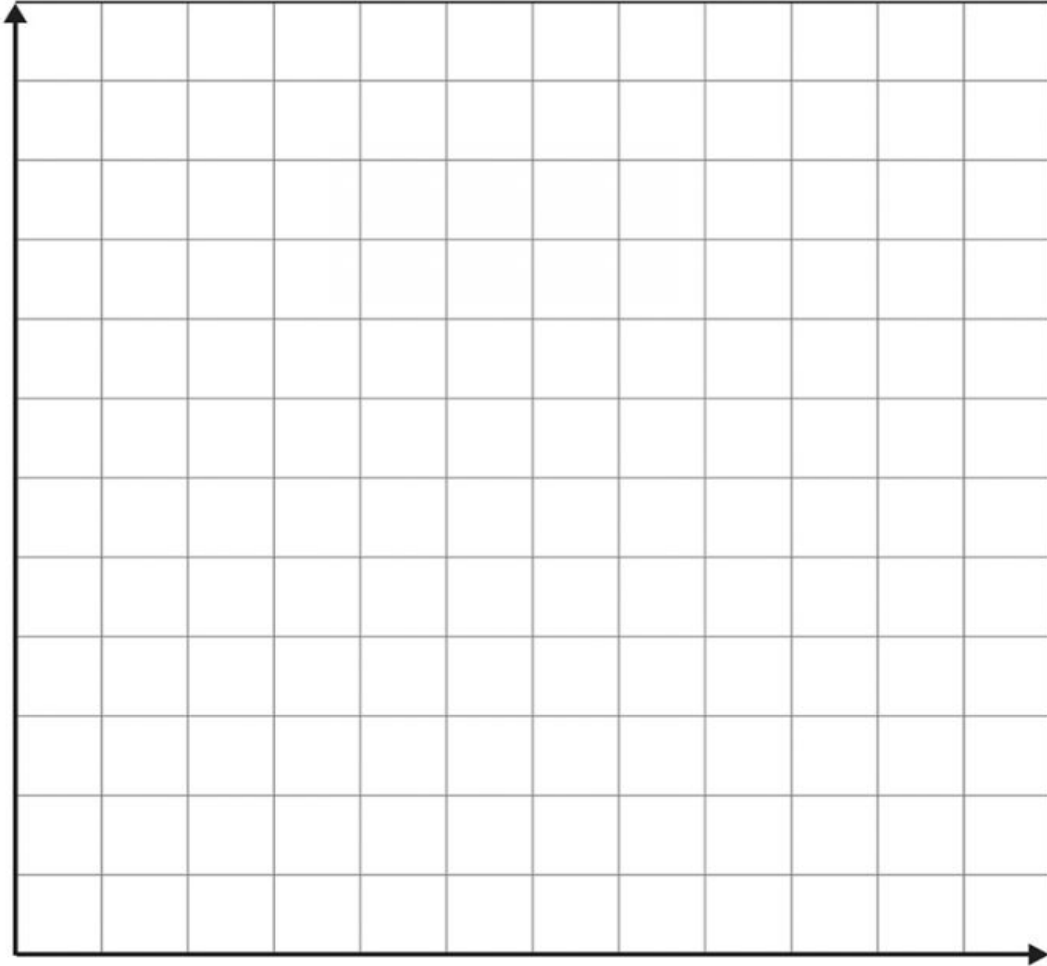
\bar{x} =

\bar{y} =

- c. How many times taller is the average height than the average length of a forearm?

Section 3:

- a. Use your data to make a scatterplot on the back of this page. Give your graph a title, label your axes, and make sure you use an appropriate scale.

**Section 4:**

- a. Add a point to represent the average length of forearm and average height on your scatterplot (\bar{x}, \bar{y}) .
- b. The **Line of Best Fit** is the line that goes through the middle of the dots on your scatter plot, so that the distance from the dots to the line is as small as possible. The **Line of Best Fit** also passes through the average point (\bar{x}, \bar{y}) . Draw your best attempt at the **Line of Best Fit** on the scatterplot.
- c. The bone you found measures 52 cm. Use your scatterplot to predict the height of the missing person.