

STATISTICS
SECTION II

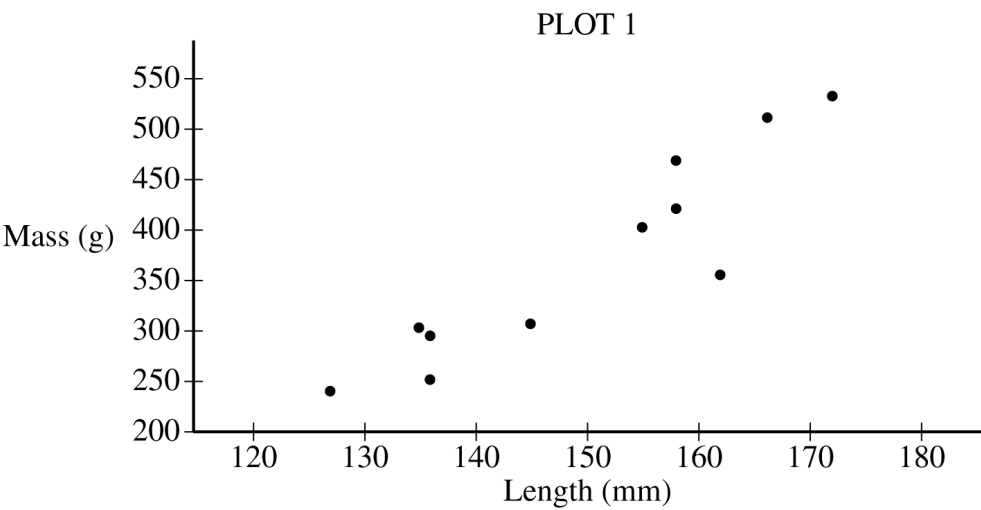
Total Time—1 hour and 30 minutes
6 Questions

Part A

Suggested Time—1 hour and 5 minutes
5 Questions

Directions: Show all your work. Indicate clearly the methods you use, because you will be scored on the correctness of your methods as well as on the accuracy and completeness of your results and explanations.

A biologist gathered data on the length, in millimeters (mm), and the mass, in grams (g), for 11 bullfrogs. The data are shown in Plot 1.

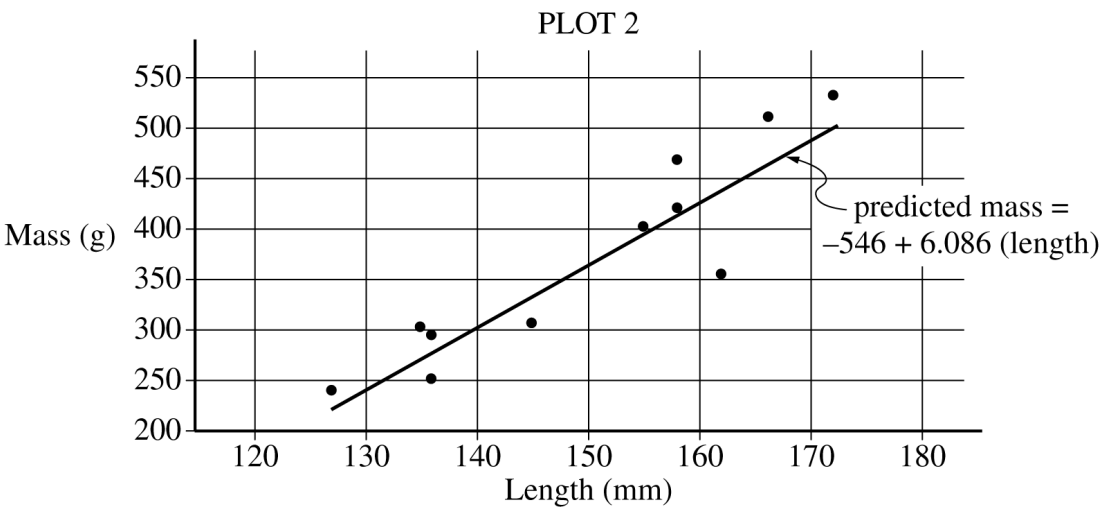


(a) Based on the scatterplot, describe the relationship between mass and length, in context.

GO ON TO THE NEXT PAGE.

Continue your response to **QUESTION 1** on this page.

From the data, the biologist calculated the least-squares regression line for predicting mass from length. The least-squares regression line is shown in Plot 2.



(c) Interpret the coefficient of determination of the least-squares regression line, $r^2 \approx 0.819$, in context.

(ii) Does the least-squares regression line overestimate or underestimate the mass of the bullfrog identified in part (d-i)? Explain your answer.

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