

Residual Learning Task

Name: \_\_\_\_\_ Date: \_\_\_\_\_

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**Residuals**

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1. The data given below shows the population of fruit flies over the last 10 weeks.

Week (x)	Number of Flies (y)	Predicted Population	Residual (Actual-Predicted)
1	50		
2	78		
3	98		
4	122		
5	153		
6	191		
7	238		
8	298		
9	373		
10	466		

**Residuals**

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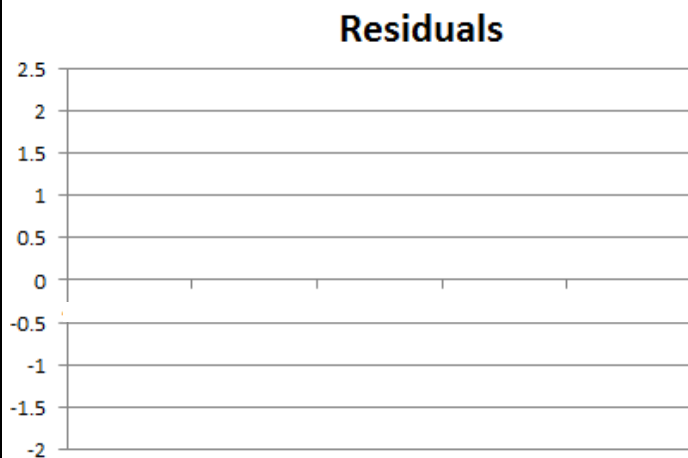
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- a. **Find the equation** for the line of best fit, as well as the correlation coefficient.
  
  - b. **Find the predicted population** and fill in column 3.
  
  - c. **Find the residual** and fill in column 4.
  
  - d. **Plot the residuals.**
  
  - e. Is there a pattern? Is the prediction line the best model for the data? How can you tell?
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2. Dr. Sanchez is a pediatrician. She tracks the age and height of each patient. The height data for one male child is in the table below.

Age in Months (x)	Height in Inches (y)	Predicted Height	Residual (Actual-Predicted)
1	20		
3	23		
6	27		
8	29		
9	31		
12	32		
15	34		



- a. **Find the equation** for the line of best fit, as well as the correlation coefficient.
- b. **Find the predicted population** and fill in column 3.
- c. **Find the residual** and fill in column 4.
- d. **Plot the residuals.**
- e. Is there a pattern? Is the prediction line the best model for the data? How can you tell?
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