Fitting a line of best fit by eye using technology

Student activity

Fitting a line of best fit by eye and finding its equation

Part 1

For this activity, you will need the following files:

* data-file-1.xlsx
* data-file-2.xlsx
* how-to-guide-Desmos-line-of-best-fit-by-eye.docx

Steps:

1. Open data-file-1.xlsx
2. Open a new blank graph in Desmos.
3. Copy the first data set from Excel and paste into a table in Desmos.
4. Fit the line of best fit by eye.
5. Record the equation of the line of best fit by eye into the table below.
6. Save the Desmos file ‘Line of Best Fit Data Set 1’.
7. Repeat steps 2 to 6 for the remaining data sets.
8. Record the difficulty of fitting.

| Data set | Equation of the line of best fit | Difficulty of fitting (on a scale of 1 to 5, with 5 being most difficult) |
| --- | --- | --- |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |
| 7 |  |  |
| 8 |  |  |
| 9 |  |  |
| 10 |  |  |

Part 2

Steps:

1. Open data-file-2.xlsx
2. Open a new blank graph in Desmos.
3. Copy the first data set from Excel and paste into a table in Desmos.
4. Fit the line of best fit by eye.
5. Record the equation in the corresponding table below.
6. Complete the rest of the table.
7. Save the file appropriately.
8. Repeat steps 2 to 7 for the remaining data sets.

Part 2 Data Set 1 Engine Size and Fuel:

| Question | Answer |
| --- | --- |
| Independent variable? |  |
| Dependent variable? |  |
| Equation of the line of best fit? |  |
| By considering the variables graphed, what does the y intercept tell us? |  |
| By considering the variables graphed, what does the gradient tell us? |  |

Data Set 2 Goods Manufactured and Energy Costs:

| Question | Answer |
| --- | --- |
| Independent variable? |  |
| Dependent variable? |  |
| Equation of the line of best fit? |  |
| By considering the variables graphed, what does the y intercept tell us? |  |
| By considering the variables graphed, what does the gradient tell us? |  |

Part 2 Data Set 3 Height and Arm Span:

| Question | Answer |
| --- | --- |
| Independent variable? |  |
| Dependent variable? |  |
| Equation of the line of best fit? |  |
| By considering the variables graphed, what does the y intercept tell us? |  |
| By considering the variables graphed, what does the gradient tell us? |  |

Part 2 Data Set 4 GDP and CO2 Emissions:

| Question | Answer |
| --- | --- |
| Independent variable? |  |
| Dependent variable? |  |
| Equation of the line of best fit? |  |
| By considering the variables graphed, what does the y intercept tell us? |  |
| By considering the variables graphed, what does the gradient tell us? |  |