Data Rate of Change Activity 13

Target: I can find the rate of change for real data.

Use this [link](#) to study Apple’s net income for the years 2005 - 2015.

1) The title of the webpage tells you the numbers in the chart represent what amount of dollars?
2) Make this table with the headings and 4 blank lines below the headings.

<table>
<thead>
<tr>
<th>Years</th>
<th>Amount of Change</th>
<th>Yearly Rate of Change</th>
<th>Equation</th>
<th>Profits in year 2020/2025</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3) Pick years that are 2 years apart and write them in the Years column. For example: 2007-2009.
4) Find the amount of change for those years. (2009 profit – 2007 profits)
5) Calculate the yearly rate of change for those years. (Use the formula from your last activity) \( \frac{\text{new} - \text{old}}{\text{amount of time}} \)

6) **Show Mr. Mosiman. Checkpoint 1.**

7) Pick years that are 5 years apart and write them in the table.
8) Find the amount of change and the yearly rate of change.
9) Pick years that are 10 years apart and write them in the table.
10) Find the amount of change and the yearly rate of change and write them in the table.
11) Explain how to find a yearly rate of change
12) Explain what a yearly rate of change means.

**Show Mr. Mosiman. Checkpoint 2.**
Data Rate of Change Activity 13

13) Time to write a formula for the 3 items in the chart which we can use to predict possible future results.
   a) Write \( y = \underline{______}x + \underline{______} \)
   b) Put the rate of change number you found in the first blank.
   c) What have we called this number?
   d) Put the profit from the earliest year you use in your formula in the second blank.
   e) What have we called this number?
   f) **Show Mr. Mosiman. Checkpoint 3.**
   g) Write the next two formulas.
   h) Are these equations functions? If so, change the equation into function notation. If not, leave them as they are already written.

14) Which rate of change is the ‘fastest’? Why?
15) **What does the ‘x’ in your functions represent?**
16) 2005 is the year the data starts. What year number does it represent?
17) **Show Mr. Mosiman. Checkpoint 4.**

18) How might you can use your functions to predict the profits in future years.
19) What year numbers are 2020 & 2025?
20) Use your functions to predict profits for 2020 & 2025. Write these in the table.
21) **Show Mr. Mosiman. Checkpoint 5. Make sure Mr. Mosiman signs your green sheet.**
Data Rate of Change Activity 13