## MAP 4CI Unit 5 lesson 2

### 5.1 LINEAR MODELS

Date: $\qquad$
Rate of change $\qquad$

Ex. 1 Danika drove at a constant speed from Peterborough to Ottawa.
The table shows the distance she travelled over time.

| Time (h) | Distance <br> $(\mathrm{km})$ | Rate of Change |
| :--- | :--- | :--- |
| 0.0 | 0 |  |
| 0.5 | 42 |  |
| 1.0 | 84 |  |
| 1.5 | 126 |  |
| 2.0 | 168 |  |
| 2.5 | 210 |  |
| 3.0 | 252 |  |
| 3.5 | 294 |  |


a) Draw a graph of the data. Describe the shape of the graph.
b) Does the rate of change appear to be increasing, constant, or decreasing?
c) Determine the rate of change. Include appropriate units.

## Ex. 2 Linear Regression

The table shows how the mass of a liquid is related to its volume.
a) Use a desmos to graph the data
b) Use desmos to determine the equation of the line of best fit.

| Volume $(\mathrm{mL})$ | Mass $(\mathrm{g})$ |
| :---: | :---: |
| 0 | 90 |
| 25 | 110 |
| 50 | 129 |
| 75 | 148 |
| 100 | 168 |
| 125 | 188 |
| 150 | 207 |

## Ex. 3 Complete Pg 277 \# 6 using desmos

Practice: Pg 278 \# 8, 9, 11 Pg. 275 \# 1-5, 7


