

U5D2 5.1 Linear Models

Saturday, November 18, 2017 8:34 AM



U5D2 5.1
Linear Mo...

MAP 4CI Unit 5 lesson 2

5.1 LINEAR MODELS

Date: _____

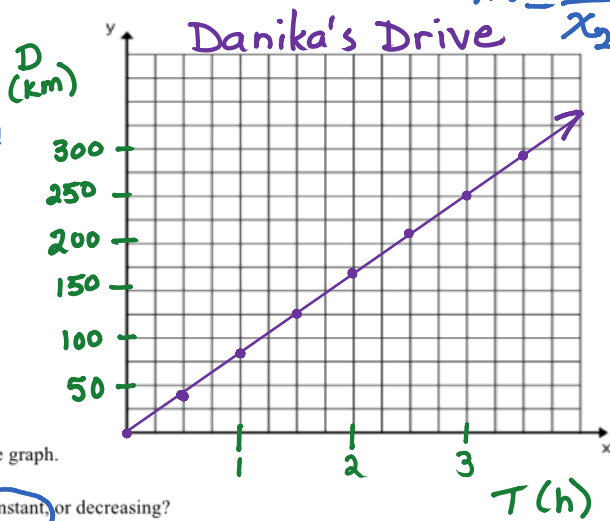
Rate of change / slope / unit rate: the amount the dependent variable changes when the independent variable increases by one.

Ex.1 Danika drove at a constant speed from Peterborough to Ottawa. — \$/kg, — km/h recall:

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

The table shows the distance she travelled over time.

Δt	Time (h)	Distance (km)	Rate of Change (km/h)
	0.0	0	$\frac{42-0}{0.5-0} = 84$
0.5	0.5	42	$\frac{84-42}{1-0.5} = \frac{42}{.5} = 84$
0.5	1.0	84	84
0.5	1.5	126	84
0.5	2.0	168	84
0.5	2.5	210	84
0.5	3.0	252	84
0.5	3.5	294	84



- Draw a graph of the data. Describe the shape of the graph.
↳ LINEAR
- Does the rate of change appear to be increasing, constant, or decreasing?
84 km/h
- Determine the rate of change. Include appropriate units.

Ex. 2 Linear Regression

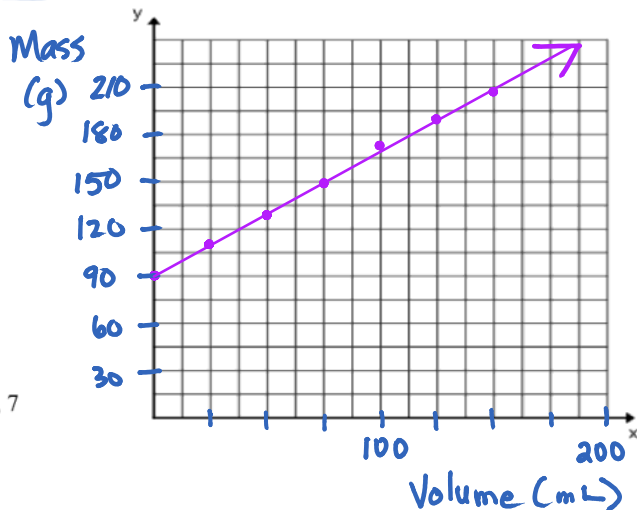
The table shows how the mass of a liquid is related to its volume.

- Use a desmos to graph the data
- Use desmos to determine the equation of the line of best fit.

Volume (mL)	Mass (g)
0	90
25	110
50	129
75	148
100	168
125	188
150	207

$$y = 0.78x + 90$$

from Desmos.



Ex.3 Complete Pg 277 # 6 using desmos

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