Unit 4
Modelling with Graphs

(Chapter 5 in textbook!)

Day 4 - Slope as a Rate of Change

Slope as a Rate of Change - (5.4)

Recap: Direct variation equation -

Partial variation equation -

Slope formula -

$$m = \frac{rise}{run} \qquad\qquad y = mx + b \qquad\qquad y = mx$$

Ex. 1 Sue drove 325 km in 3.5 hours. What is the rate of change of distance from Sue's starting point?
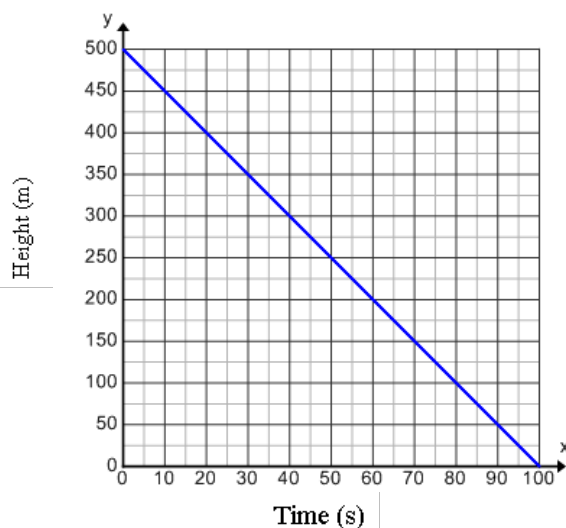
Hint

Equation

Ex. 2 A 5 year old sleeps an average of 11 hours a night, whereas a
25 year old sleeps an average of 8 hours a night. What is the
rate of change of hours of sleep per night?

Ex. 3 The graph shows the relationship between the height of a
parachutist, in metres, and the time of descent, in seconds.

Height (m)

Time (s)

a) Calculate the slope.
(watch the scale!)

b) Interpret the slope as a rate of change.

<u>Ex. 4</u> Christina pays her internet bill based on hours of use. For one
month, Christina was on-line for 15 hours and was billed for
$18.75. The next month, she was on-line for 27 hours and her
bill was $39.75. Assume this is a linear relationship. Determine
the rate of change and interpret its meaning in the context of the
question.

Method 1:

a) Graph the cost per hour
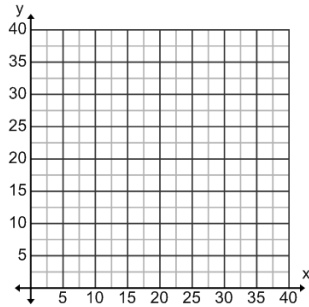
Method 2:

Determine the slope of the
line using the two given points
(15, 18.75) and (27, 39.75)

b) Determine the rate of change
of the line.

Today's Practice Questions:

Pg 268 – 271 # 1,3, 5, 7, 9, 11, 13, 14, 18