

## **Review**

Explain how you could tell from the data in a table if the graph for that data is linear or non-linear.

## **U4L2 – 3.1 Quadratic Relations (Graphing Calculators for this lesson)**

Students will learn examine linear and non-linear models and number patterns using graphing calculators.

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Read pg. 248 and top of pg. 249

Complete pg. 249 - 250 #(1 – 8)

For #2a)  $y = \frac{x(x+1)}{2} = \frac{x^2 + x}{2}$

### Example

The driver of a car applies the brakes and skids through an intersection. The investigating police officer knows that the distance a car skids depends on the speed of the car just before the brakes are applied. She uses the following chart to determine the car's speed before the skid.

Speed (km/h)	0	10	20	30	40	50	60	70	80	90	100
Length of Skid (m)	0	0.7	2.8	6.4	11.4	17.8	25.7	35	45.7	57.8	71.4
First Difference											
Second Difference											

a) Determine if either a linear or a quadratic relation can be used to model the data.

b) Estimate the initial speed of the car if the skid mark is 104m long.

Read the Key Ideas on pg. 250

Ex. Pg.254 – 258 # (1 – 2)alt,3,(4 – 5)alt,6,8all,12all,14all