

**Practise**

1. How is an equation for a quadratic relation different from an equation that represents a linear relation?



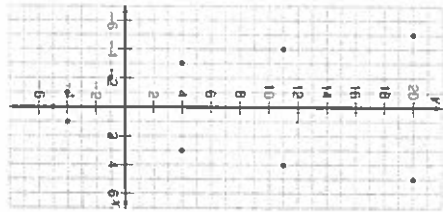
2. Does the equation  $y = 3x^2 - 4$  represent a linear or quadratic relation? How do you know?

3. a) Use a graphing calculator to graph the data in the table.  
 b) What type of relation best represents the data?

x	y
-3	27
-2	12
-1	3
0	0
1	3
2	12
3	27

4. a) Complete the table using the values for the points indicated in the graph. One coordinate has been filled in for you.

x	y
-5	20



b) Using a graphing calculator, determine the equation of the curve of best fit.

The equation for the graph is \_\_\_\_\_.

c) What type of relation fits the data? \_\_\_\_\_.

5. The path of a soccer ball was studied and the following data collected.

a) Enter the data on a graphing calculator.



Time (s)	Height (m)
0	0
1	24.5
2	39.2
3	44.1
4	39.2
5	24.5
6	0

b) The data appear on the graph in the shape of a \_\_\_\_\_, therefore, the data forms a \_\_\_\_\_ relation.

6. The data in the table describe the path of a fireworks display launched from a hill into a flat lowland area.

Horizontal distance (m)	Vertical distance (m)
0	0
3	28.13
6	44.91
9	53.52
12	51.75
15	19.21
18	-11.71

a) Enter the data on a graphing calculator, then display the scatter plot.

b) The equation of the quadratic relation is \_\_\_\_\_.