

# Graphing Functions

For each of the following problems,  
copy and complete each table in your maths pad;  
plot the points on a graph (label the axes, give the graph a title)  
join the points with a straight line or a smooth curve;  
use the graph to estimate the answers to the questions.

## 1. Linear Graphs

Postage stamps cost 43c each.

- Copy and complete the table for the cost of up to 10 stamps.
- Plot the points and draw the graph.
- Estimate the cost of 7 stamps from the graph.
- Estimate how many stamps can you buy for \$1.80.

# of stamps	total cost
1	43c
2	
3	
5	
10	

## 2. Linear and Quadratic Graphs

- Complete the two tables. The first compares the length of the side of a square with its perimeter. The second table compares the length with the area.
- Graph the 2 equations on the same set of axes. What do you notice?
- Estimate the perimeter of a square with a side length of 2.4 cm.
- Estimate the side length of a square with an area of 24 cm<sup>2</sup>.

side length	perimeter
1	4
2	
3	
5	
10	

side length	area
1	1
2	
3	
4	
5	

### 3. Exponential Graphs

a) Fold a piece of newspaper in half. One fold gives 2 thicknesses. Fold it again. How many thicknesses now? Continue folding until you can fold no more. After each fold, record the total number of thicknesses in a table.

b) Graph your results.

# of folds | number of thicknesses

# of folds	number of thicknesses
1	2
2	
3	
4	
5	
6	
7	
8	

### 4. Inverse Proportion Graphs

a) I need to make a trip of 36 km. If I drive, I can travel at 36 km per hour, and the trip takes just 1 hour. If I walk at 6 km per hour the trip takes 6 hours. Copy and complete the table that compares the speed with the time required.

b) Draw the graph from this table. Join the points in a smooth curve.

c) Estimate the time needed if I can travel at 14 km per hour.

d) Estimate the speed if the trip takes 8 hours.

speed	time
1	
2	
3	
6	
12	
18	
36	