In this activity, the function that you'll be investigating will always be:

$$f(x) = \frac{x^2 - 1}{x - 1}.$$

- *Simplify the formula for f(x) as much as you possibly can, and then without using a calculator, sketch a graph of y=f(x) using the axes provided below.*
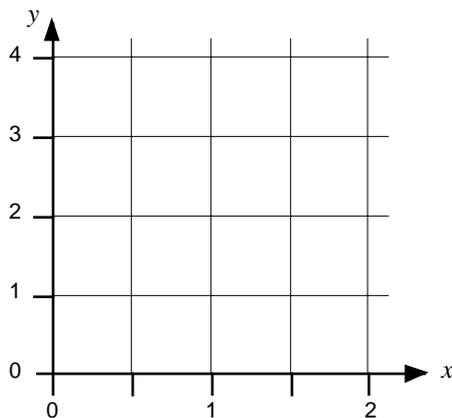
- *Use a graphing calculator to produce a graph of y=f(x) by entering:*

```
y1 = (X^2 - 1)/(X - 1)
```

and using the graphing window: xmin=0, xmax=2, ymin=0, ymin=4

Sketch the picture that your calculator gives you in the space provided below.

- *Starting with the non-simplified formula for f(x), what is the domain of the function f(x)?*

- *How can you explain the differences between the graph that you drew by hand and the plot that your calculator produced?*