1. Plot the graphs of each the functions given below. In each case state the domain and range of the function.

   (i) \( f(x) = 2x - 1 \), \(-1 \leq x \leq 4\)
   (ii) \( g(t) = t^2 + 2 \), \(-2 \leq t \leq 3\).

   The expectation is here is that you will tabulate values of the function and plot the curves by hand. If you have a graphics calculator you should use it only to verify the graph obtained.

2. Given \( f(x) = 2x - 1 \) and \( g(x) = x^2 \) determine each of the compositions
   (i) \( f(g(x)) \)
   (ii) \( g(f(x)) \)
   (iii) \( f(f(x)) \)

3*. Determine the domain and range of each of the composite functions of exercise 2 if the domain of \( f(x) \) is \([0, 3]\) and that of \( g(x) \) is \([-1, 3]\).

4. Classify each of the functions of exercise 1 as either one-to-one or many-to-one. If the function is one-to-one determine and plot its inverse.

5. Find (ie by algebraic manipulation) and plot the inverse of the following functions. You should verify first that the function is in fact one-to-one.
   (i) \( f(x) = \frac{1}{2x+3} \), \( 0 \leq x \leq 4 \)
   (ii) \( f(x) = \frac{1}{x^2+1} \), \( 0 \leq x \leq 1 \).

6. Plot the graph of the curve with parametric representation
   (i) \( x = 2t, y = t^2 - 1 \), \(-1 \leq t \leq 4\)
   (ii) \( x = p^2 - 1, y = p - 2 \), \(-1 \leq p \leq 3\).

   Indicate in each case if the parametric curve represents a function \( y = f(x) \).

7. Give two parametric representations of the function \( y = 3x^2 - 2x + 3 \) with range \( 1 \leq x \leq 5 \).

8. For each of the functions given below state whether or not the functions are odd or even or neither.
   (i) \( y = x + 1 \)
   (ii) \( y = x^2 + 1 \)
   (ii) \( y = x^3 \).

9. The function \( y = f(x) \) is such that \( y = 2x + 1 \) for \( 0 \leq x \leq 3 \). Sketch the function over the interval \(-9 \leq x \leq 9\) if
   (i) \( f(x) \) is a periodic function with period 3,
   (ii) \( f(x) \) is an even function and is periodic with period 6.

* Questions marked with an asterisk are slightly more involved than usual or extend the material in the text. Students are encouraged to attempt these questions once they have gained confidence with the material of the text.