EXERCISE 2.3

1. Which of the following relations are functions? Give reasons. If it is a function, determine its domain and range. (i) {(2,1), (5,1), (8,1), (11,1), (14,1), (17,1)} (ii) {(2,1), (4,2), (6,3), (8,4), (10,5), (12,6), (14,7)} (iii) {(1,3), (1,5), (2,5)}.
2. Find the domain and range of the following real functions: (i) $f(x) = -x$ (ii) $f(x) = 9-x^2$.
3. A function f is defined by $f(x) = 2x - 5$. Write down the values of (i) f (0), (ii) f (7), (iii) f (–3).
4. The function 't' which maps temperature in degree Celsius into temperature in degree Fahrenheit is defined by $t(C) = 59C + 32$. Find (i) t(0) (ii) t(28) (iii) t(–10) (iv) The value of C, when t(C) = 212.
5. Find the range of each of the following functions. (i) $f (x) = 2 - 3x$, $x \in R$, $x > 0$. (ii) $f (x) = x^2 + 2$, x is a real number. (iii) $f (x) = x$, x is a real number.