EXERCISE 2.2

1. Find the zeroes of the following quadratic polynomials and verify the relationship between the zeroes and the coefficients.

   (i) $x^2 - 2x - 8$ (ii) $4s^2 - 4s + 1$ (iii) $6x^2 - 7 - 3x$
   (iv) $4u^2 + 2u$ (v) $t^2 - 15$ (vi) $3x^2 - x - 4$

2. Find a quadratic polynomial each with the given numbers as the sum and product of its zeroes respectively.
   (i) $\frac{1}{4}, -1$ (ii) $\sqrt{2}, \frac{1}{3}$ (iii) $(0, \sqrt{5}$
   (iv)$1, 1$ (v) $\frac{-1}{4}, \frac{1}{4}$ (vi)4,1

EXERCISE 2.3

1. Divide the polynomial $p(x)$ by the polynomial $g(x)$ and find the quotient and remainder in each of the following :

   (i). $9x^2 - 2x - 8$
   (ii). $4s^2 - 4s + 1$
   (iii). $6x^2 - 7 - 3x$

2. Check whether the first polynomial is a factor of the second polynomial by dividing the second polynomial by the first polynomial:

   (i). t^2–$3, 2t^4 + 3t^3 - 2t^2 - 9t - 12$
   (ii). $x^2 + 3x + 1, 3x^4 + 5x^3 - 7x^2 + 2x + 2$
   (iii). $x^3 - 3x + 1, x^5 - 4x^3 + x^2 + 3x + 1$