Let us consider a sum of complex numbers in the complex plane C Suppose

This suggests that it is best to consider complex numbers as vectors; i.e., we regard a complex number z = x + iy as a vector whose initial point is the origin and whose terminal point is the complex number z = x + iy. In other words,we consider a complex number z = x + iy to be a vector whose orthogonal projections to the coordinate axes are x and y Naturally, similar considerations apply to the complex number w. Then the sum z + w corresponds to the diagonal vector (from the origin) of the parallelogram formed by two vectors z and w.Equivalently,draw the vector z with the initial point at the origin, and then draw the vector w with the initial point at the terminal point of z,then the vector with the initial point at the origin and the terminal point of w as its terminal point represents the vector z + w. (See Figure 1.2.)

From now on we shall identify a complex number with a point or a vector in the complex plane, whichever is most convenient for the particular situation.

We now consider the real multiple of a complex number.For z = x+ iy and c R,we have cz = cx + icy.Thus,in the complex plane,

