

The line segment from  $\mathbf{r}_0 = 9\mathbf{i} + \mathbf{j} + 2\mathbf{k}$  to  $\mathbf{r}_1 = 7\mathbf{i} + 6\mathbf{j} - \mathbf{k}$  is

$$\begin{aligned}\mathbf{r}(t) &= (1-t)\mathbf{r}_0 + t\mathbf{r}_1 = (1-t)(9\mathbf{i} + \mathbf{j} + 2\mathbf{k}) + t(7\mathbf{i} + 6\mathbf{j} - \mathbf{k}) \\ &= (9\mathbf{i} + \mathbf{j} + 2\mathbf{k}) + t(-2\mathbf{i} + 5\mathbf{j} - 3\mathbf{k}), \quad 0 \leq t \leq 1.\end{aligned}$$

The corresponding parametric equations are  $x = 9 - 2t$ ,  $y = 1 + 5t$ ,  $z = 2 - 3t$ ,  $0 \leq t \leq 1$ .