Vector Functions and Curves
One variable functions

Question

Find the velocity, speed and acceleration of the particle with position given by $\underline{r}(t)$ at time t. Also determine the particles path.

$\underline{r} = \underline{i} + t\underline{j}$

Answer

Position: $\underline{r} = \underline{i} + t\underline{j}$

Velocity: $\underline{v} = \underline{j}$

Speed: $v = 1$

Acceleration: $\underline{a} = \underline{0}$

Path: the line $x = 1$ in the xy-plane.