

Reminders

- ▶ Our last class meeting is Thursday, April 25 (because Tuesday, April 30 is redefined as Friday).
- ▶ The comprehensive final exam takes place 3:00–5:00 in the afternoon of Thursday, May 2.

Review exercise on vector calculus

A moving particle has velocity vector $\vec{v}(t)$ equal to $t\vec{i} + t^2\vec{j}$.

1. Find the acceleration vector $\vec{a}(t)$.
2. If the initial position vector $\vec{r}(0)$ equals $\vec{i} + 2\vec{j}$, find the position vector $\vec{r}(t)$ at general time t .
3. Find the distance traveled between time 1 and time 2 by integrating the speed $|\vec{v}(t)|$.