Week 10 Graph Sketching & Kinematics Lecture Note

Notebook:	Computational Mathematics
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Cornell Notes	**Topic:** Graph Sketching & Kinematics Continued	Course: BSc Computer Science
		Class: Computational Mathematics[Lecture]
		Date: May 22, 2020

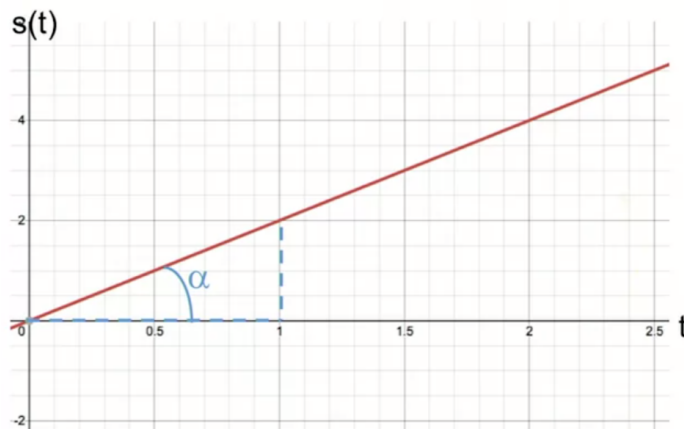| **Essential Question:** |
|---|
| What is a function and what are its applications to kinematics (simple motion)? |

Questions/Cues:
- What is the uniform motion on a straight line in the case of constant velocity?   - What is uniformly accelerated motion in the case of a projectile?

Notes

Uniform motion on a straight line: constant velocity
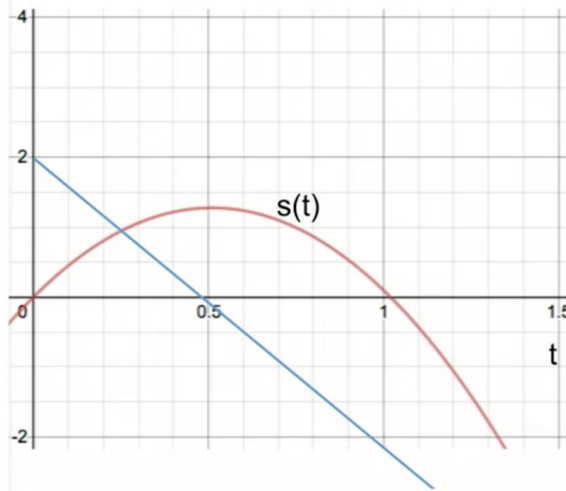

$$v(t)=v_0=const$$
$$s(t)=s_0+v_0t$$

$$s_0=0$$
$$v_0=2m/s$$

$$\tan(\alpha)=2/1=v_0$$

Uniformly accelerated motion: projectile

$v(t)=v_0 + a\,t$

$s(t)=s_0+v_0 t + at^2/2$

$s_0=0$

$v_0=2m/s$

$a=g= -9.8m/s^2$

s(t)

Uniform motion

$v(t)=v_0=const$

$s(t)=s_0+v_0 t$

Uniformly accelerated motion

$v(t)=v_0 + a\,t$

$s(t)=s_0+v_0 t + a\,t^2/2$

Summary

In this week, we learned about uniform motion and uniformly accelerated motion.