MTH 201: Calculus

Module 1A: How do we measure velocity?

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GVSU

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Agenda for today

- Review of Daily Prep assignment, and Q+A

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- Activity: Going from average velocity to instantaneous velocity

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- For next time: Followup activities and things to do

Polling for today

Go to `www.mentimeter.com` and enter code `xx yy zz`

A basic question

Reminder

The **average velocity** of a moving object is an estimate of its velocity over an **interval** of time. The **instantaneous velocity** of a moving object is its velocity at a **single moment** in time.

Fundamental Question

It's easy to find average velocity given two points. But how do you find instantaneous velocity, where you only have *one* point?

Activity: On your device, go to the spreadsheet set up at:

`https://bit.ly/201-1a`

Debrief with a graph

https://www.desmos.com/calculator/obpytdzxsf

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- It's also the slope of the "tangent line" that touches the graph of $s(t)$ at the single point $(a, s(a))$. If we zoomed in on the graph of s at this point, the graph would flatten out at appear to be equal to this line.

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Applying the concept

Back to Mentimeter for two polling questions

NEXT TIME...

- **Followup activities:** To be done on your schedule, posted to ClassKick (watch CampusWire and Blackboard for a link). Complete by due date for 1 engagement credit.
- **Daily Prep for Part B:** Go ahead and start reading/watching video; see calendar for due date
- **Ask questions and interact:** Get on CampusWire and share thoughts, questions, and help.