

Use TI 84 or CE to approximate the instantaneous rate of change of any function at a spe...

Lesson 264 | Calculus AB | Average and instantaneous rates

<https://www.youtube.com/watch?v=Ph7AanZbV-U>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Position is $s(t)=13t^2+5t$ for $t \geq 0$. Find average velocity on $[6,7]$ and instantaneous velocity at $t=6$.

02

Position is $s(t)=4t^2+3t$ for $t \geq 0$. Find average velocity on $[7,8]$ and instantaneous velocity at $t=7$.

03

Position is $s(t)=12t^2+6t$ for $t \geq 0$. Find average velocity on $[2,3]$ and instantaneous velocity at $t=2$.

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04

Position is $s(t)=11t^2+13t$ for $t \geq 0$. Find average velocity on $[3,4]$ and instantaneous velocity at $t=3$.

05

Position is $s(t)=12t^2+13t$ for $t \geq 0$. Find average velocity on $[6,7]$ and instantaneous velocity at $t=6$.

06

Position is $s(t)=4t^2+5t$ for $t \geq 0$. Find average velocity on $[7,8]$ and instantaneous velocity at $t=7$.

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01

Position is $s(t)=13t^2+5t$ for $t \geq 0$. Find average velocity on $[6,7]$ and instantaneous velocity at $t=6$.

Average = $[s(7)-s(6)]/1=174$. Differentiate: $v(t)=26t+5$; $v(6)=161$.

02

Position is $s(t)=4t^2+3t$ for $t \geq 0$. Find average velocity on $[7,8]$ and instantaneous velocity at $t=7$.

Average = $[s(8)-s(7)]/1=63$. Differentiate: $v(t)=8t+3$; $v(7)=59$.

03

Position is $s(t)=12t^2+6t$ for $t \geq 0$. Find average velocity on $[2,3]$ and instantaneous velocity at $t=2$.

Average = $[s(3)-s(2)]/1=66$. Differentiate: $v(t)=24t+6$; $v(2)=54$.

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04

Position is $s(t)=11t^2+13t$ for $t \geq 0$. Find average velocity on $[3,4]$ and instantaneous velocity at $t=3$.

Average = $[s(4)-s(3)]/1=90$. Differentiate: $v(t)=22t+13$; $v(3)=79$.

05

Position is $s(t)=12t^2+13t$ for $t \geq 0$. Find average velocity on $[6,7]$ and instantaneous velocity at $t=6$.

Average = $[s(7)-s(6)]/1=169$. Differentiate: $v(t)=24t+13$; $v(6)=157$.

06

Position is $s(t)=4t^2+5t$ for $t \geq 0$. Find average velocity on $[7,8]$ and instantaneous velocity at $t=7$.

Average = $[s(8)-s(7)]/1=65$. Differentiate: $v(t)=8t+5$; $v(7)=61$.