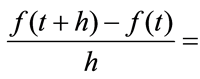
**Mr. Visca’s: Calculus (Chpt 2.1)**

**Chpt 2 – Day 1 Rates of Change & Limits**

**Average Speed:**

* aka, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* ratio:



* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A rock breaks loose from the top of a tall cliff. What is its average speed during the first 2 seconds? Given the function y = 16t2 to represent the situation.

An object dropped from rest from the top of a tall building falls y = 16t2 feet in the first t seconds. Find the average speed during the first 3 seconds.

**Instantaneous Speed**

* def: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



* Where's the issue with the ratio for instantaneous speed?
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Let's calculate the instantaneous speed of the rock from the first example (y = 16t2)

where t = 2.

An object dropped from rest from the top of a tall building falls y = 16t2 feet in the first t seconds. Find the speed at 3 seconds; confirm your answer algebraically

*HW: sec 2.1 - #2,4*