

Green Sheet

right hand difference quotient (rhdq) #9 on wkst

$$\begin{aligned} & [1, 1.01] \\ & 32 \quad 31.8384 \\ & \frac{31.8384 - 32}{1.01 - 1} \end{aligned}$$

left hand difference quotient (lhdq) #10 on wkst

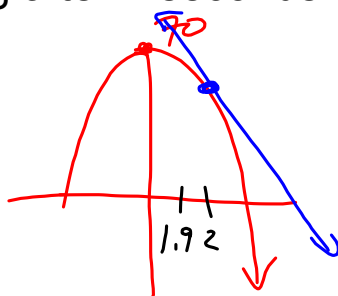
$$\begin{aligned} & \overbrace{[1.99, 2]} \\ & -47.84 \frac{\text{ft.}}{\text{sec.}} \quad -47.984 \quad -47.9984 \\ & \quad \quad \quad -48 \frac{\text{ft.}}{\text{sec.}} \end{aligned}$$

symmetric difference quotient (sdq)

$$[1.9, 2.1]$$

A ball is dropped from the top of a 70 foot building. Its height above ground after  $t$  seconds is  $70 - 16t^2$

How fast is the ball falling after 2 seconds?



$$-64 \frac{\text{ft}}{\text{sec.}}$$

The table shows the coordinates of a moving particle. Estimate the velocity at  $t = 3$ .

Sym.  
left rt.

t sec	0	.5	1	1.5	2	2.5	3	3.5	4
s (ft)	3.5	-4	-8.5	-10	-8.5	-4	3.5	14	27.5

$$\text{Sym: } \frac{14 - (-4)}{3.5 - 2.5} = 18 \frac{\text{ft.}}{\text{sec.}}$$