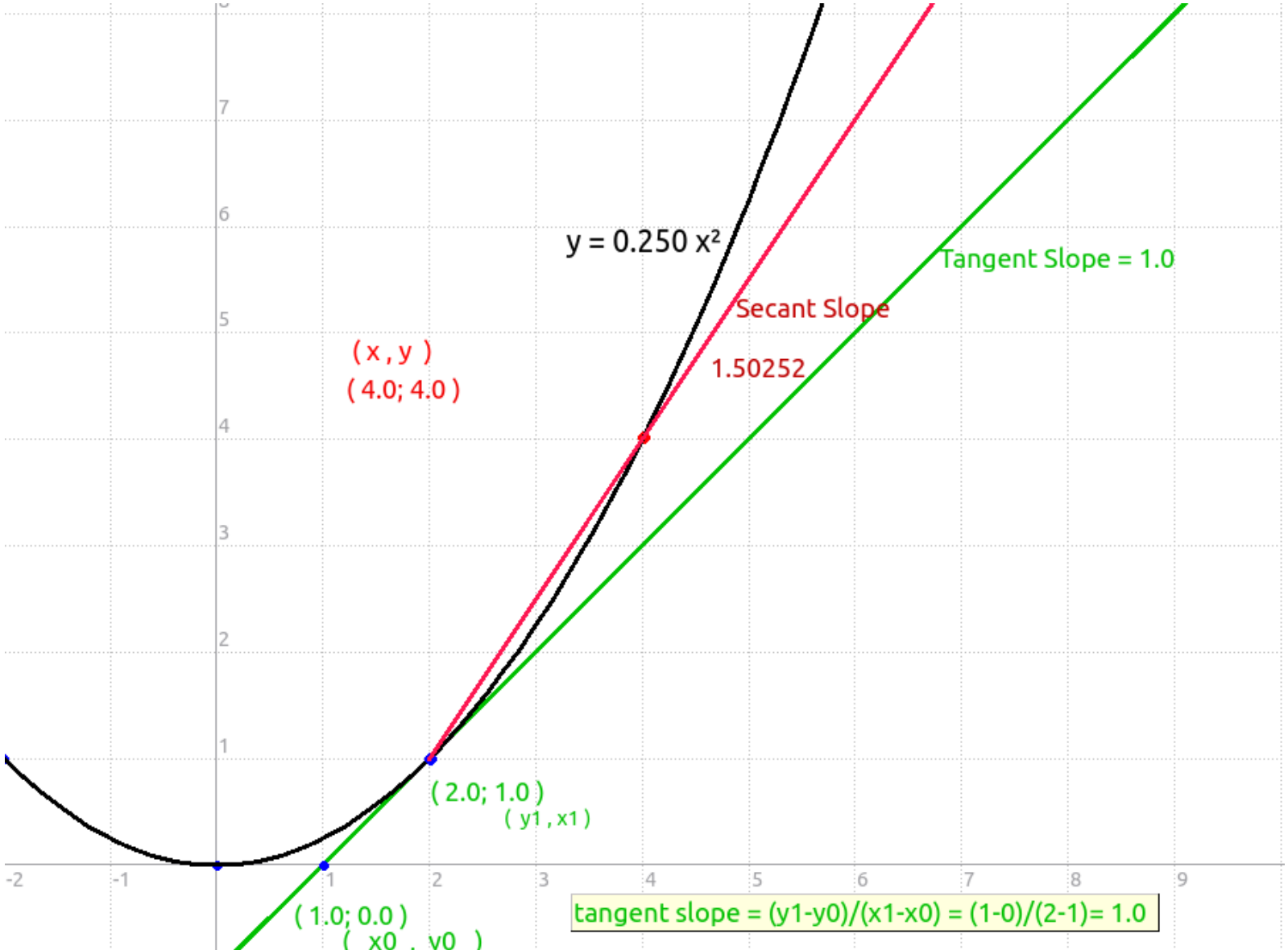
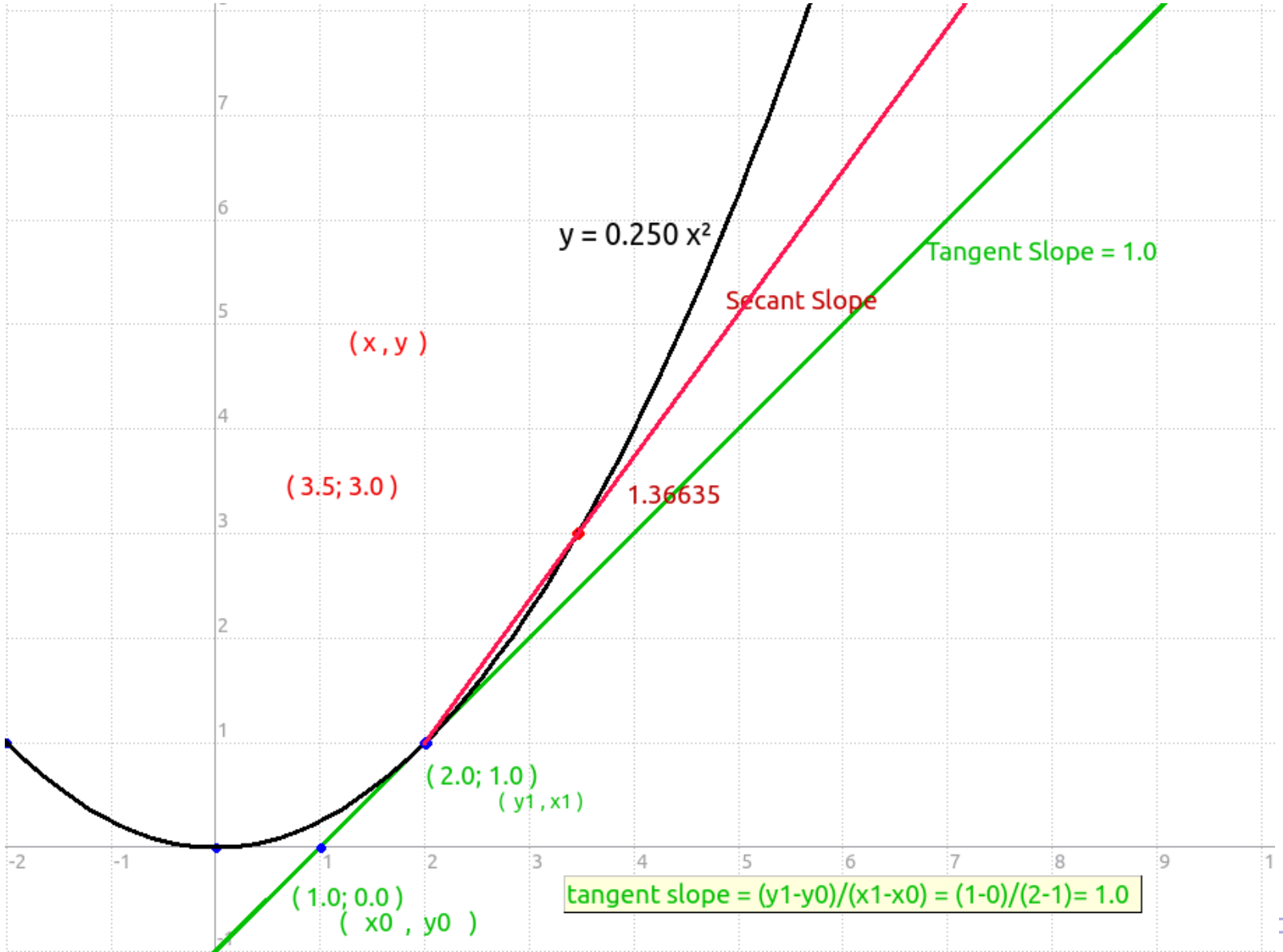
Right Hand Limit

$x \to 2^+$	4.0		
Secant Slope	1.5		



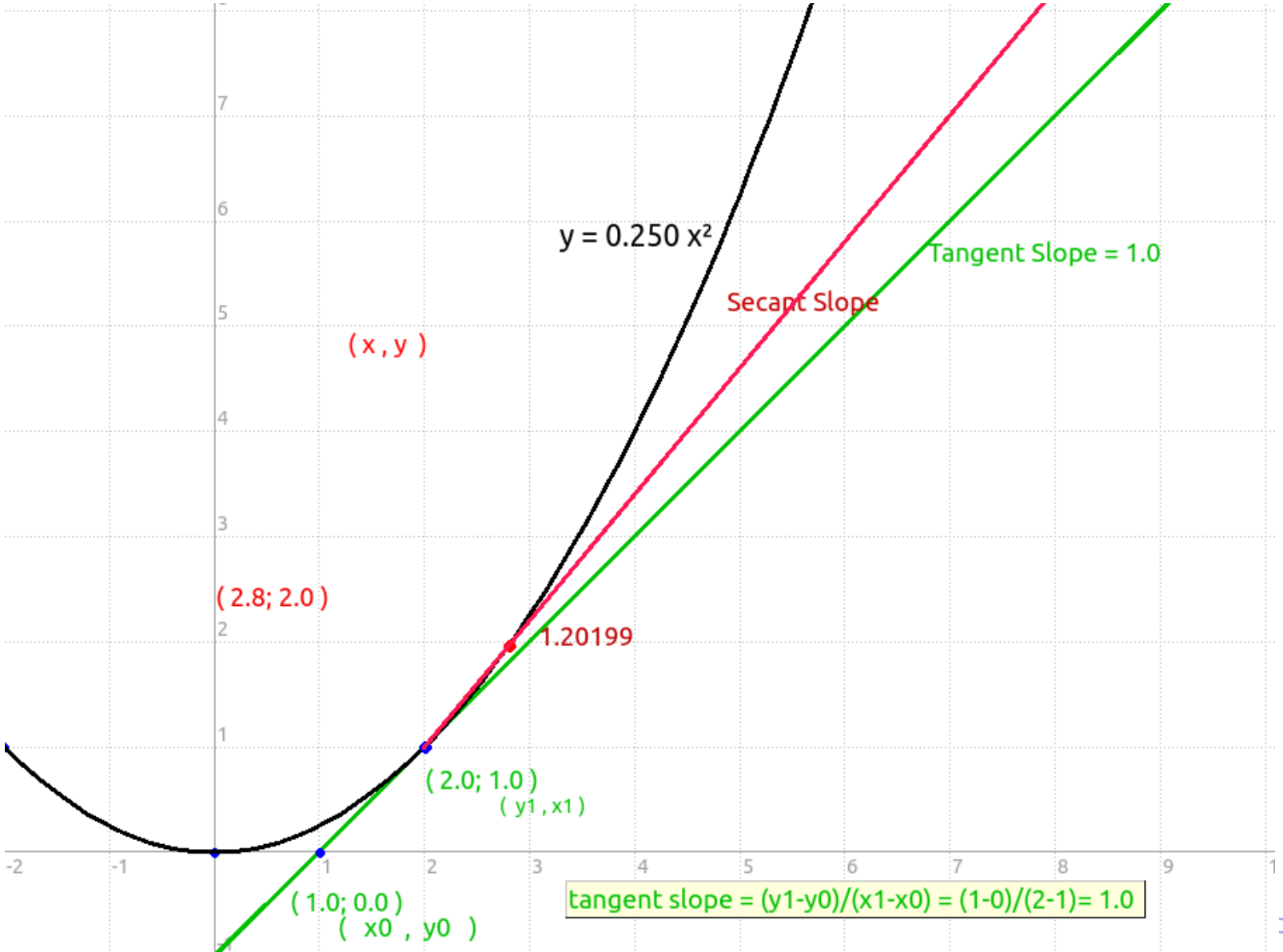
Right Hand Limit

$x \to 2^+$	4.0	3.5	
Secant Slope	1.5	1.4	



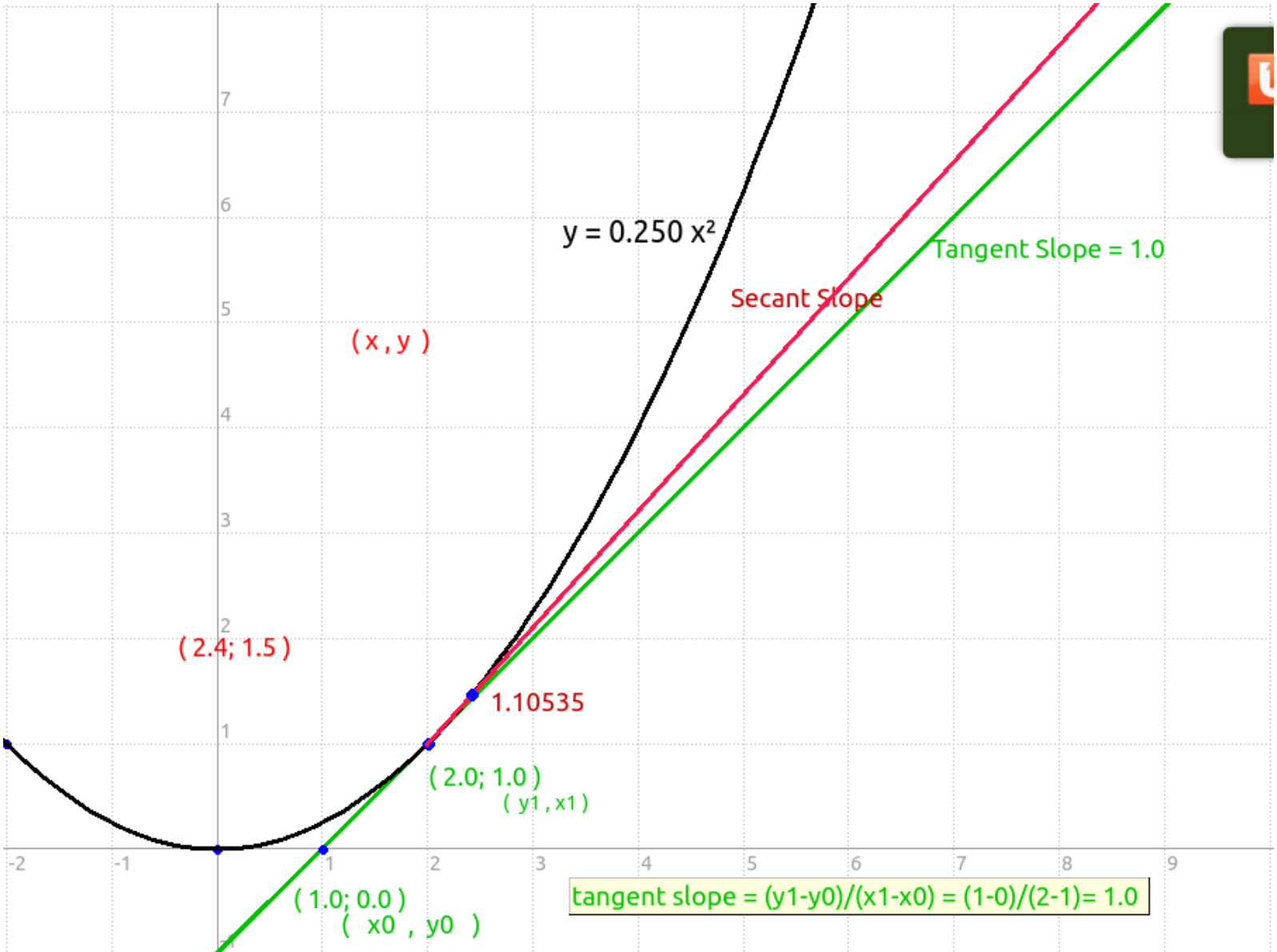
Right Hand Limit

$x \to 2^+$	4.0	3.5	2.8
Secant Slope	1.5	1.4	1.2



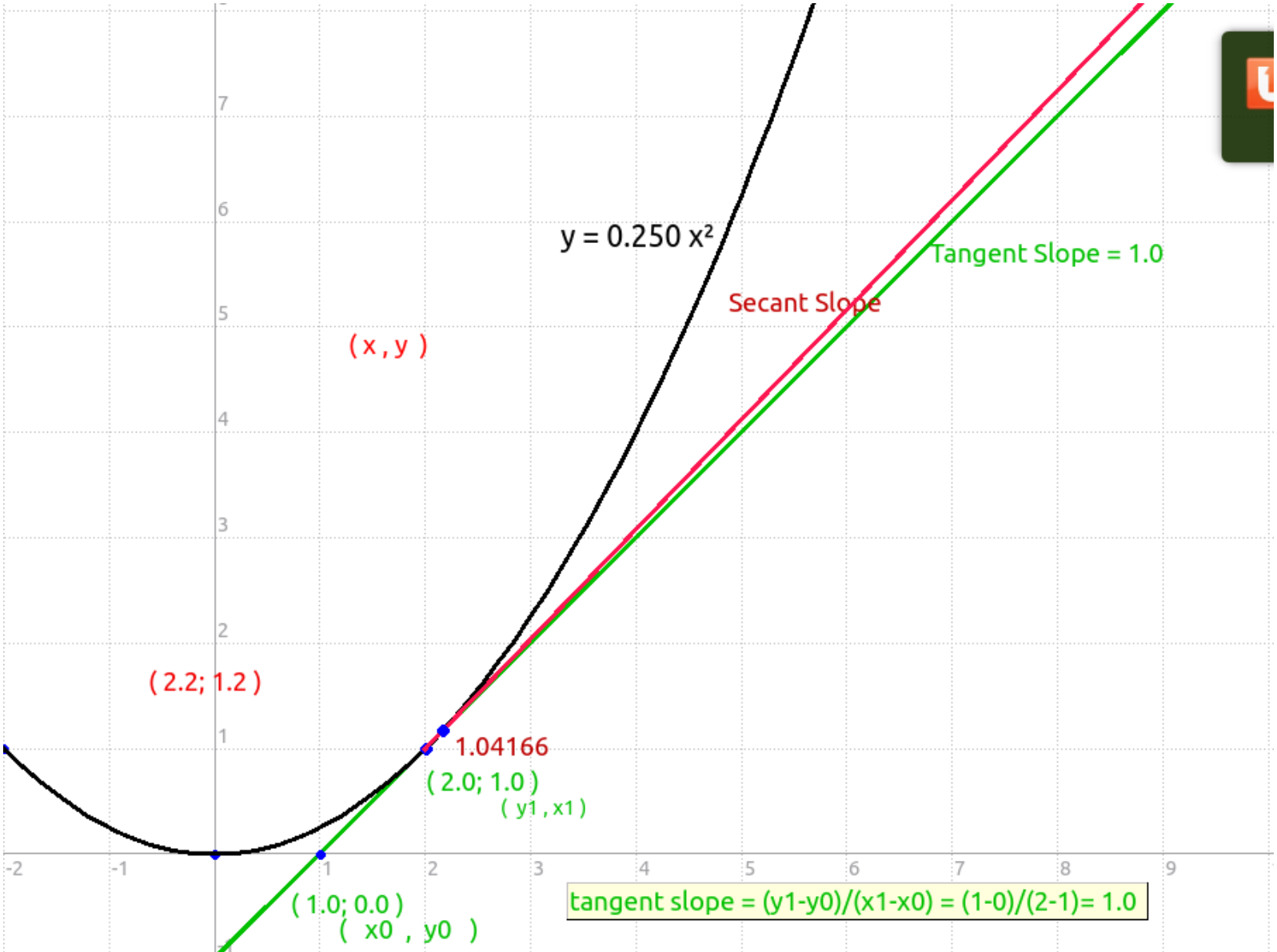
Right Hand Limit

$x \to 2^+$	4.0	3.5	2.8	2.4
Secant Slope	1.5	1.4	1.2	1.1



Right Hand Limit

$x \to 2^+$	4.0	3.5	2.8	2.4	2.2
Secant Slope	1.5	1.4	1.2	1.1	1.04



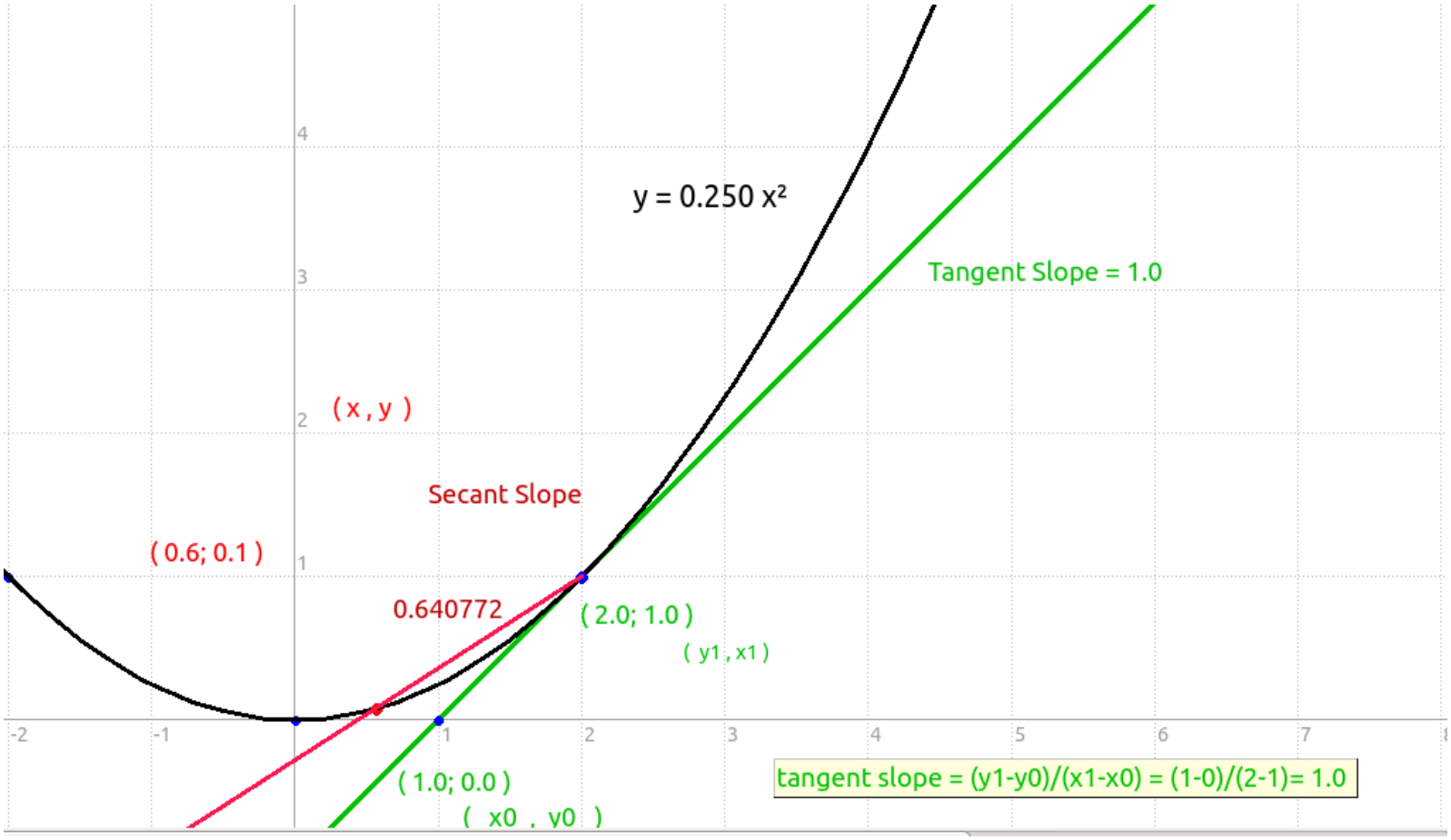
Right Hand Limit

$$y = f(x) = \frac{1}{4}x^2$$

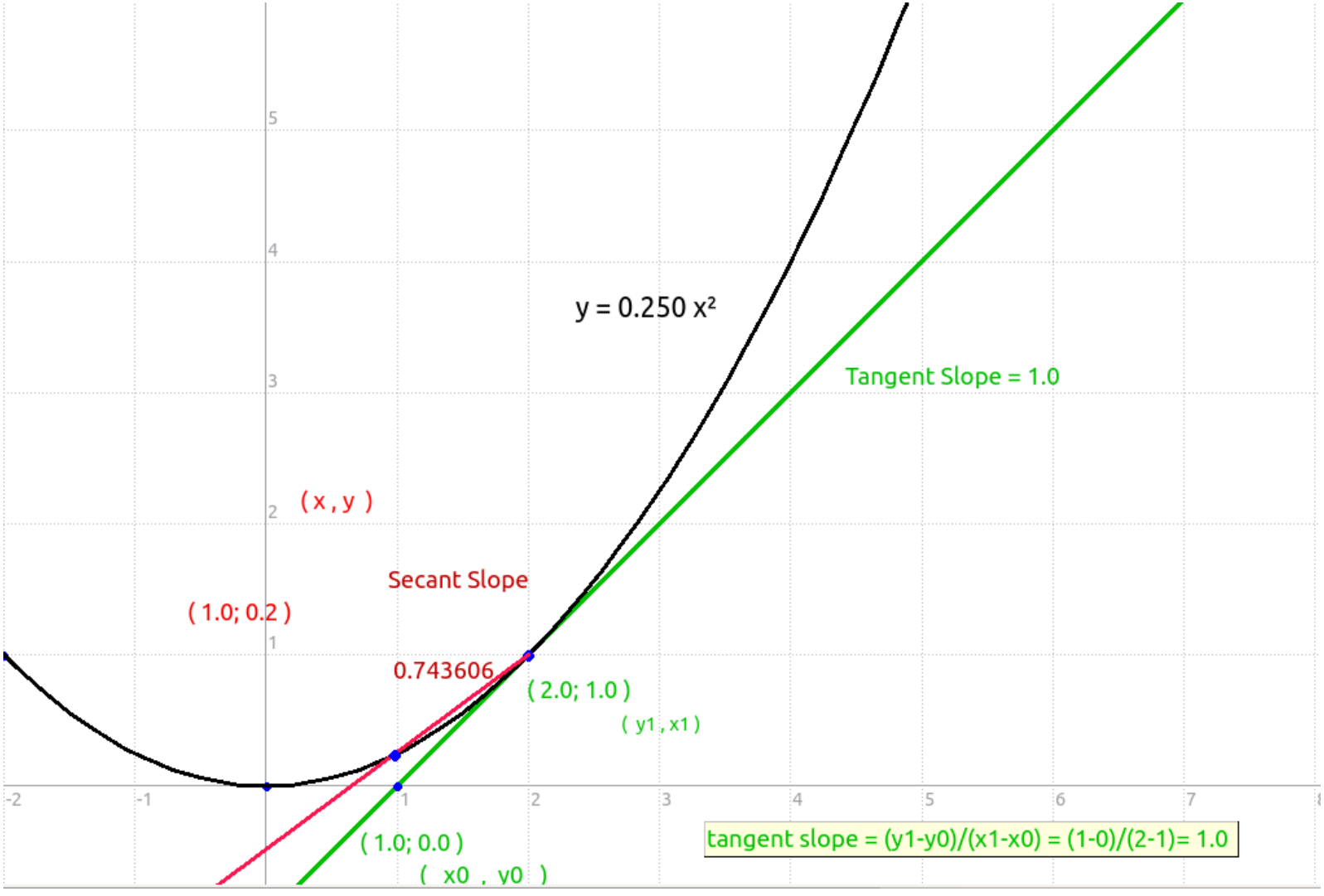
$x \to 2^+$	4.0	3.5	2.8	2.4	2.2	$\to 2^+$ (from right)
Secant Slope	1.5	1.4	1.2	1.1	1.04	$\to 1.0^+$ (Tangent Slope)

$$\text{Tangent Slope} = \lim_{x \to 2^+} [\text{ Secant Slope }] = 1.0$$

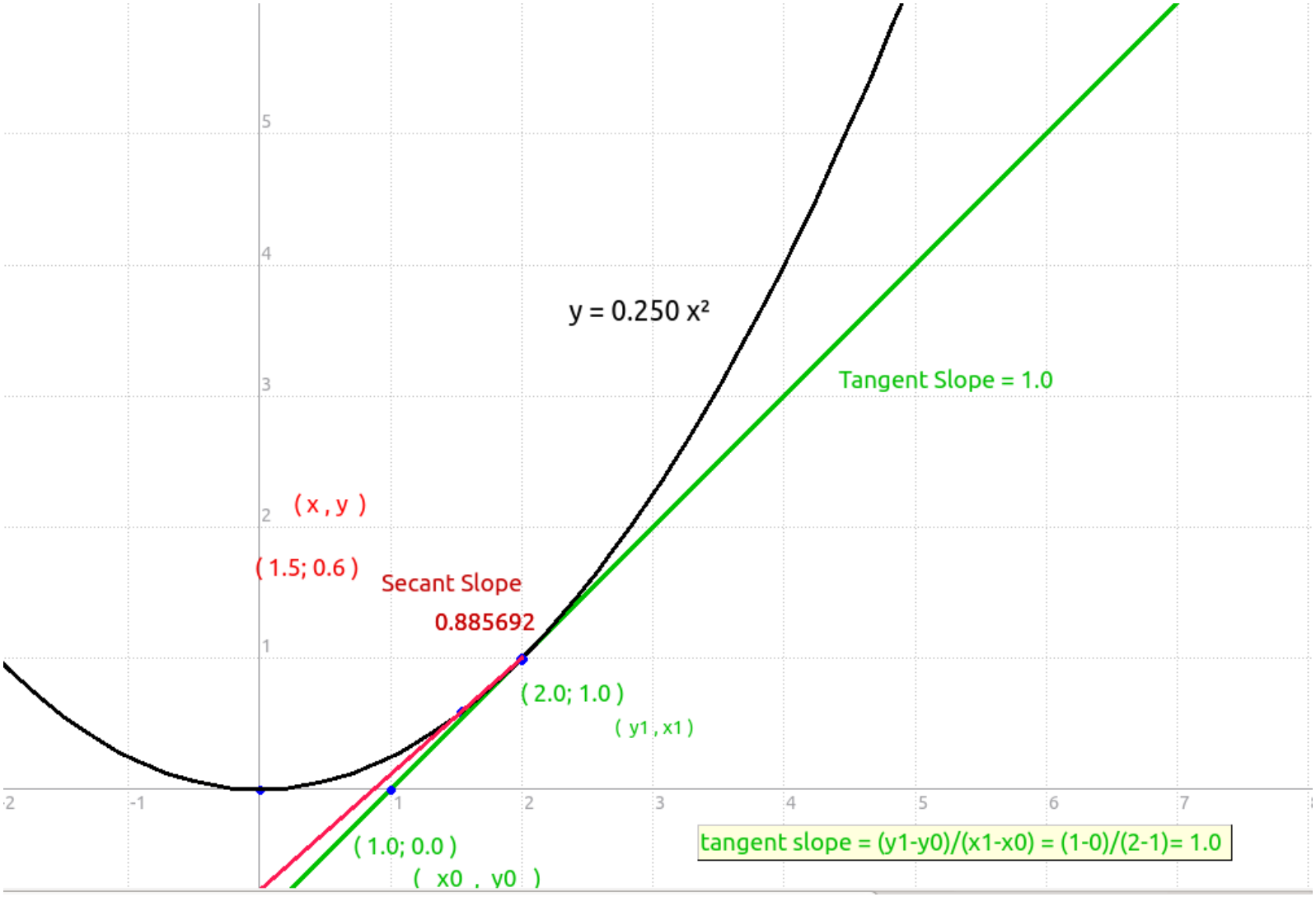
Left Hand Limit



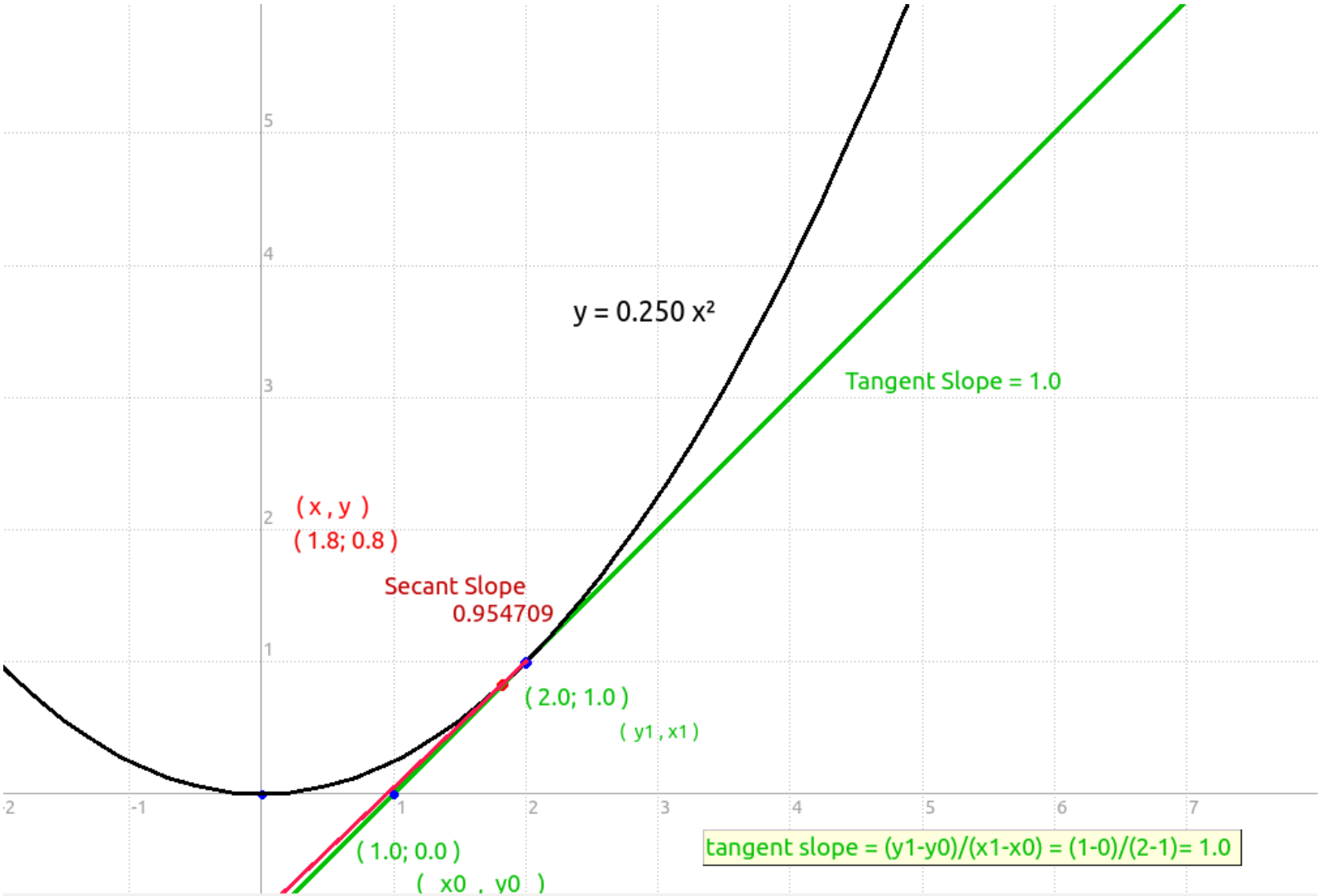
Left Hand Limit



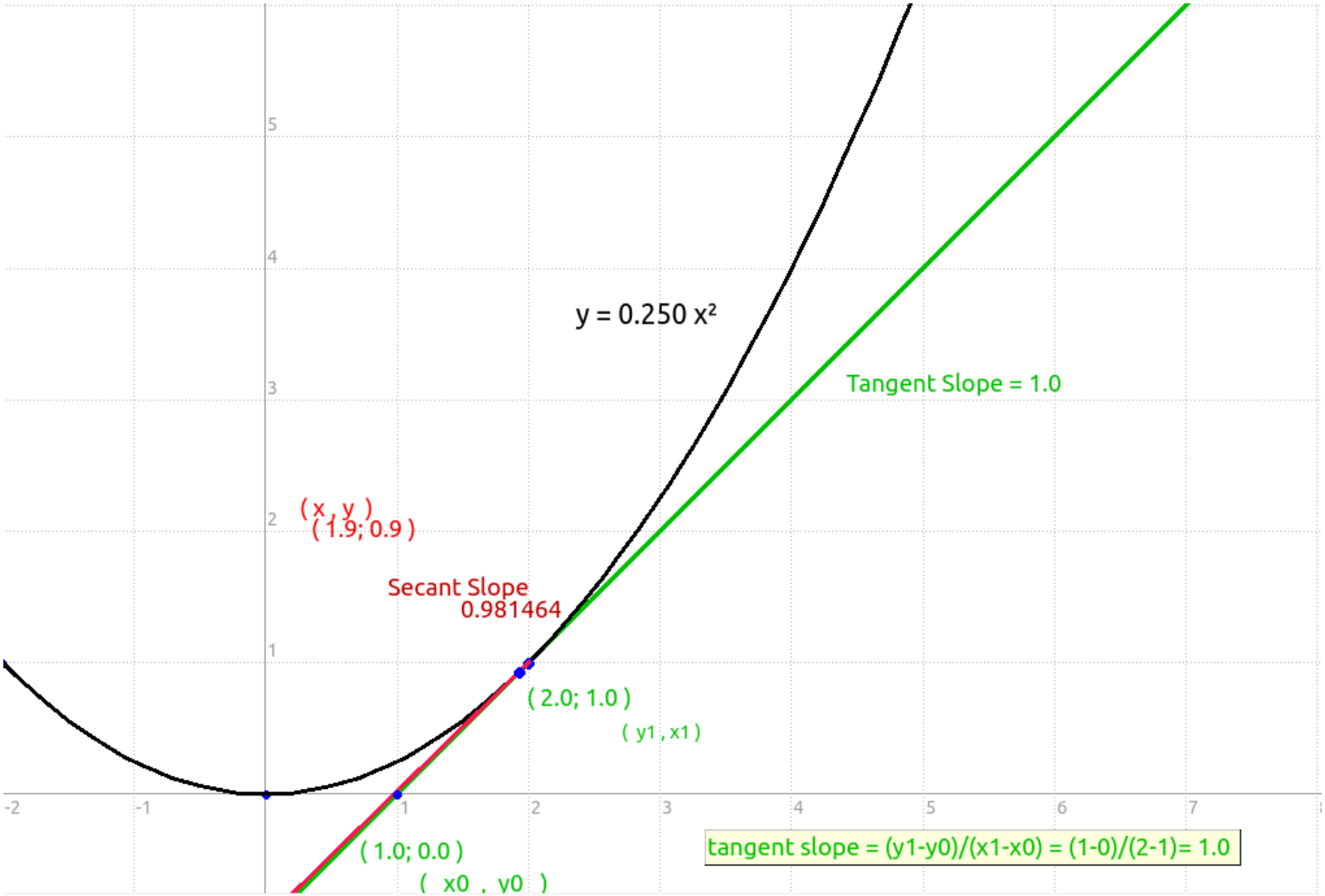
Left Hand Limit



Left Hand Limit



Left Hand Limit



Left Hand Limit

$$y = f(x) = \frac{1}{4}x^2$$

$x \to 2^-$	0.6	1.0	1.5	1.8	1.9	$\to 2^-$ (from left)
Secant Slope	0.6	0.7	0.88	0.95	0.98	$\to 1.0^-$ (Tangent Slope)

$$\text{Tangent Slope} = \lim_{x \to 2^-} [\text{ Secant Slope }] = 1.0$$

LHL = RHL $\Rightarrow$ Limit

- $y = f(x) = \frac{1}{4}x^2$
$x \to 2^-$	0.6	1.0	1.5	1.8	1.9	$\to 2^-$
Secant Slope	0.6	0.7	0.88	0.95	0.98	$\to 1.0^-$
- Tangent Slope $= \lim_{x \to 2^-}$ [Secant Slope] $= 1.0$
$x \to 2^+$	4.0	3.5	2.8	2.4	2.2	$\to 2^+$
Secant Slope	1.5	1.4	1.2	1.1	1.04	$\to 1.0^+$
- Tangent Slope $= \lim_{x \to 2^+}$ [Secant Slope] $= 1.0$
- LHL $_{x \to 2}$ = RHL $_{x \to 2} = 1.0 \Rightarrow$
  The Limit exists and is equal to 1.0
- $\lim_{x \to 2}$ [Slope of Secant Line] = Slope of Tangent Line = 1.0.