

MATH 2501 Fall 2018

Quiz 1

Consider the curve  $y=x^2-1$  and point  $P=(1,0)$ .  
Find equations for two secant lines using  $x$ -values  
 $x=2$  and  $x=1.5$ .

Solution: At  $x=2$

We have point  $Q=(2,3)$

So

$$m_{\text{sec}} = \frac{3-0}{2-1} = +3$$

Thus the secant line is

$$y-3 = +3(x-2)$$

$$\text{(OR } y-0 = 3(x-1) \text{)}$$

At  $x=1.5$

We have point  $Q=(1.5, 1.5^2)$

$$=(1.5, 1.25)$$

Thus the secant line is

$$\boxed{y - 1.25 = 2.50(x - 1.5)}$$

$$\text{(OR } y - 0 = 2.50(x - 1) \text{)}$$

2
1.5
$\times 1.5$
<hr/>
75
150
<hr/>
1.25

↓

$$m_{\text{sec}} = \frac{1.25-0}{1.5-1} = \frac{1.25}{0.5} = 2.50$$