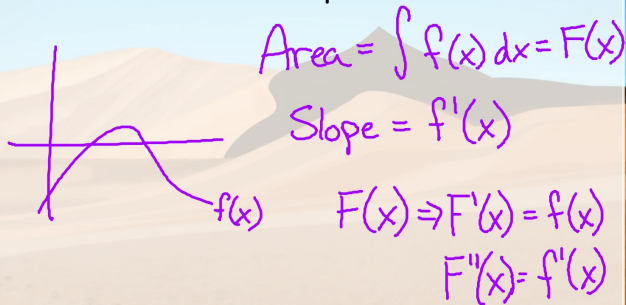


April 21

How is the area under a curve related to the slope of the curve?

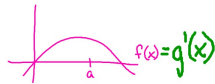


April 21

Students will verbally explain how to solve problems using calculus

(using the words:  
integral, derivative, slope, etc...)

$$g(x) = \int_0^x f(t) dt$$



Given a graph of  $f(x)$ :

How do you find the value of  $g(a)$ ?

Plug in  $a$  for  $x \rightarrow \int_0^a f(t) dt \rightarrow$  Area under the curve

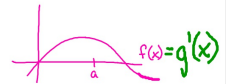
How do you find the value of  $g'(a)$ ?

$g'(a) = f(a) \rightarrow$  y-value on graph

How do you find the value of  $g''(a)$ ?

$g''(a) = f'(a) \rightarrow$  slope of graph

$$g(x) = \int_0^x f(t) dt$$



Given a graph of  $f(x)$ :

How do you find where a maximum of  $g(x)$  occurs?

where the sign of the graph ( $g'(x) = f(x)$ ) changes from positive to negative

How do you find where a minimum of  $g(x)$  occurs?

where the sign of the graph ( $g'(x) = f(x)$ ) changes from negative to positive

How do you find where an inflection point occurs?

where the slope of  $f(x)$  changes sign  
 $\Rightarrow f(x)$  has a max or min