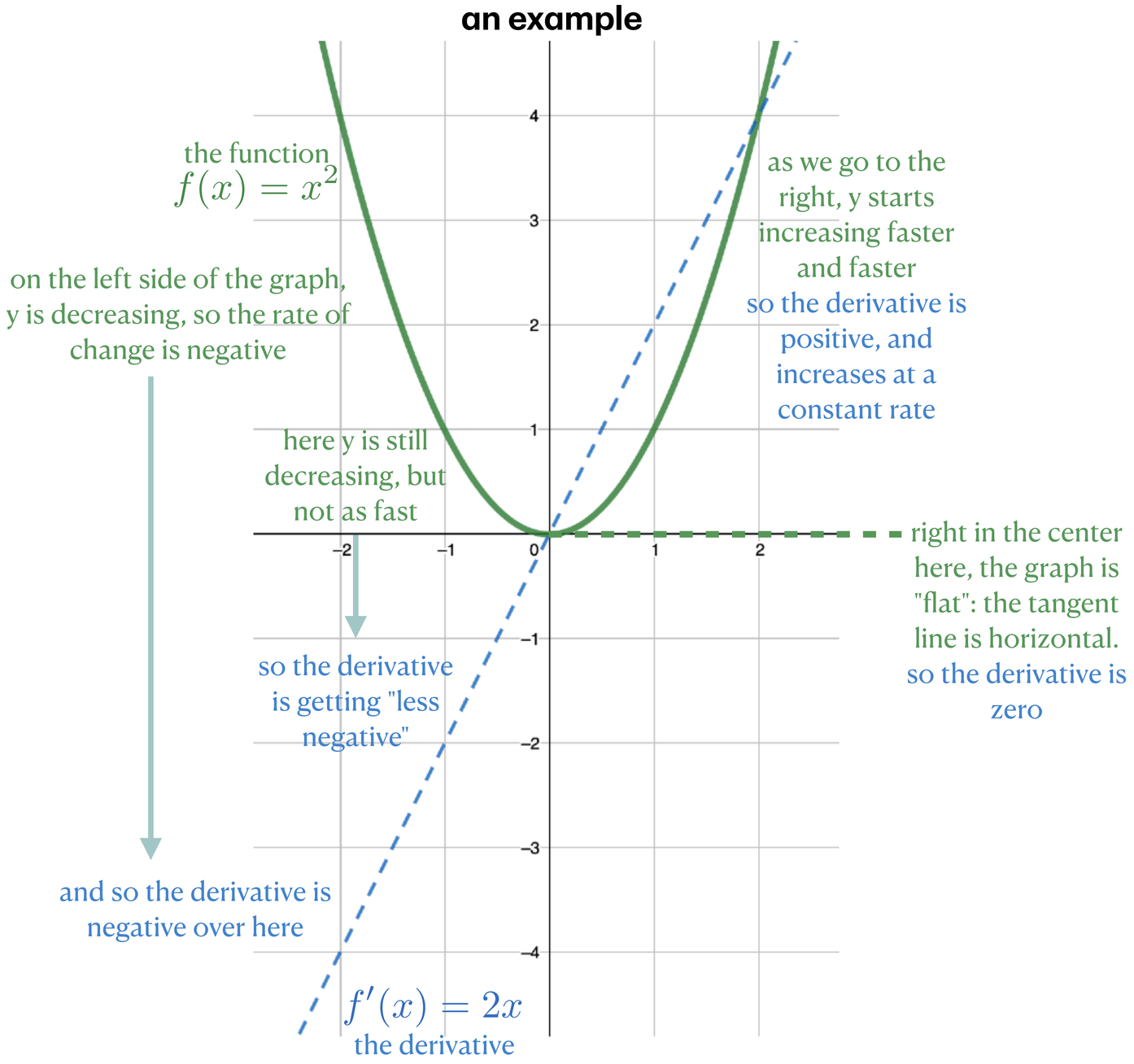
Calculus Break

a function *f(x)* takes *x* as input and produces a unique value *y* for each value of *x*

the *derivative* of *f(x)* is a new function that you put *x* into and it gives you the rate of change of *y* as *x* increases (i.e. as you move from left to right in a graph)

we typically write this as *f'(x)*



what was the point of all that

just that, since the y-value and rate of change are the same at EVERY point on this curve and it is the ONLY curve with this property,
this means $f(x) = e^x$
is the ONLY function that is its own derivative: $f'(x) = e^x$