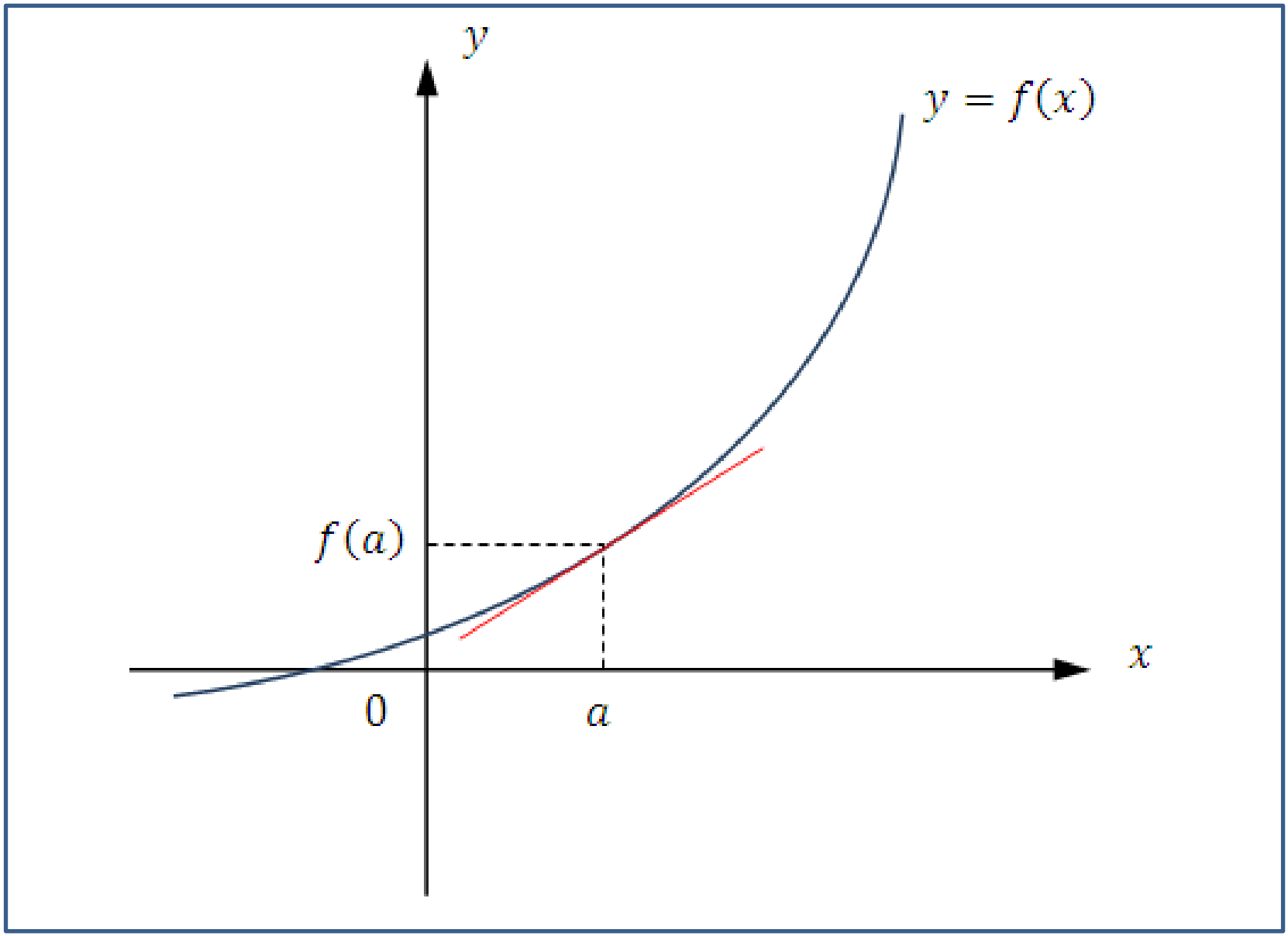
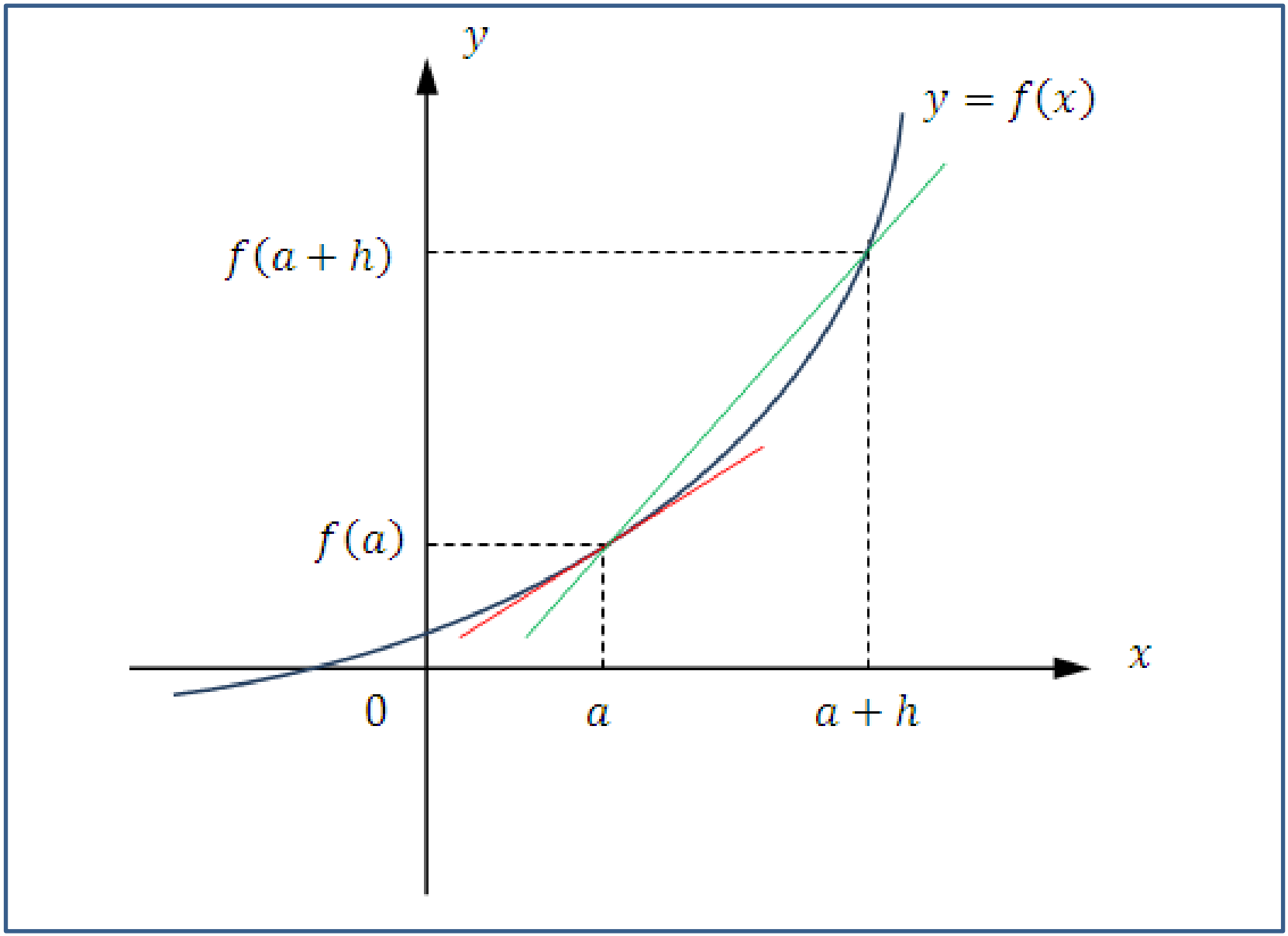
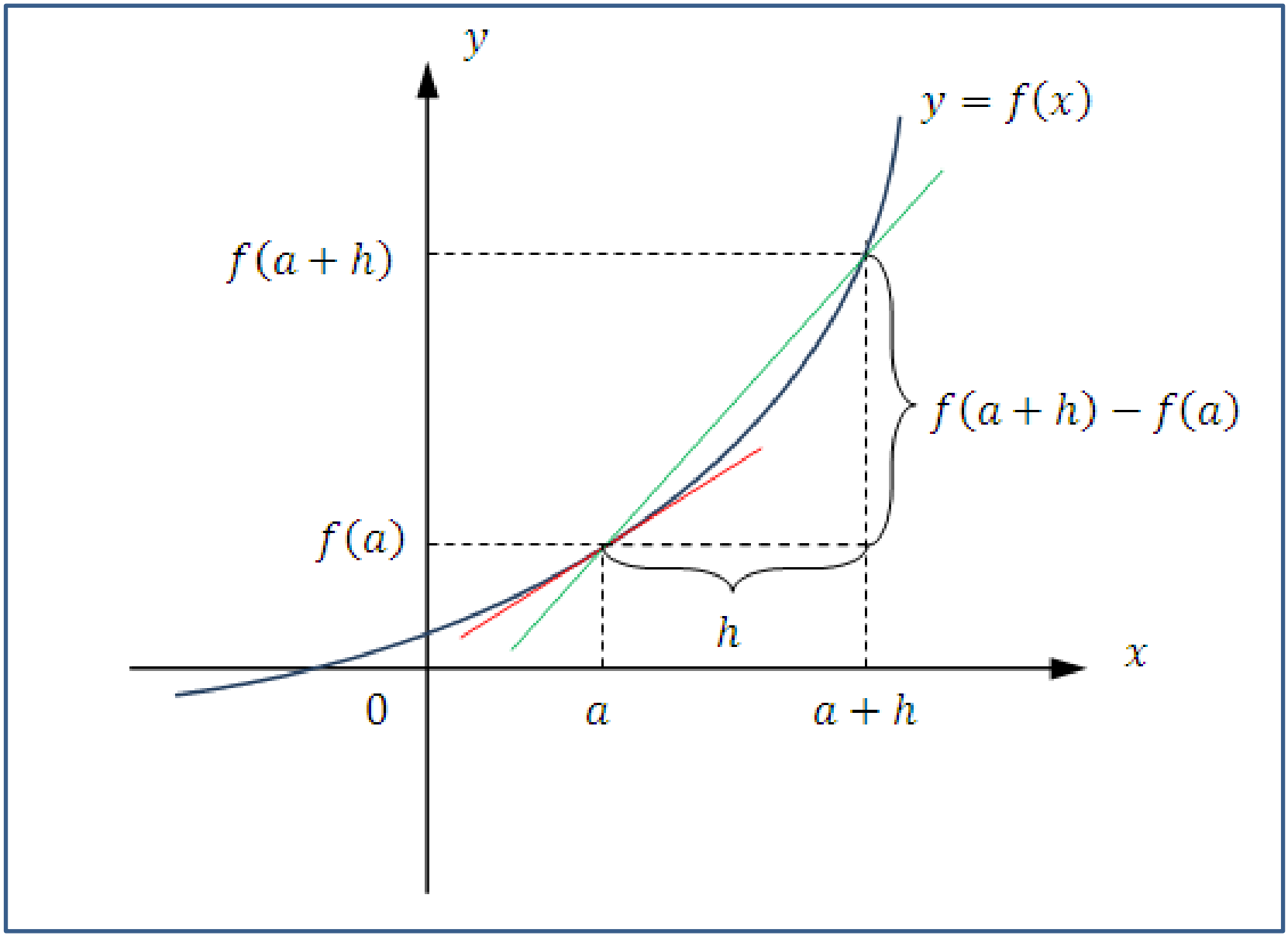
Derivatan

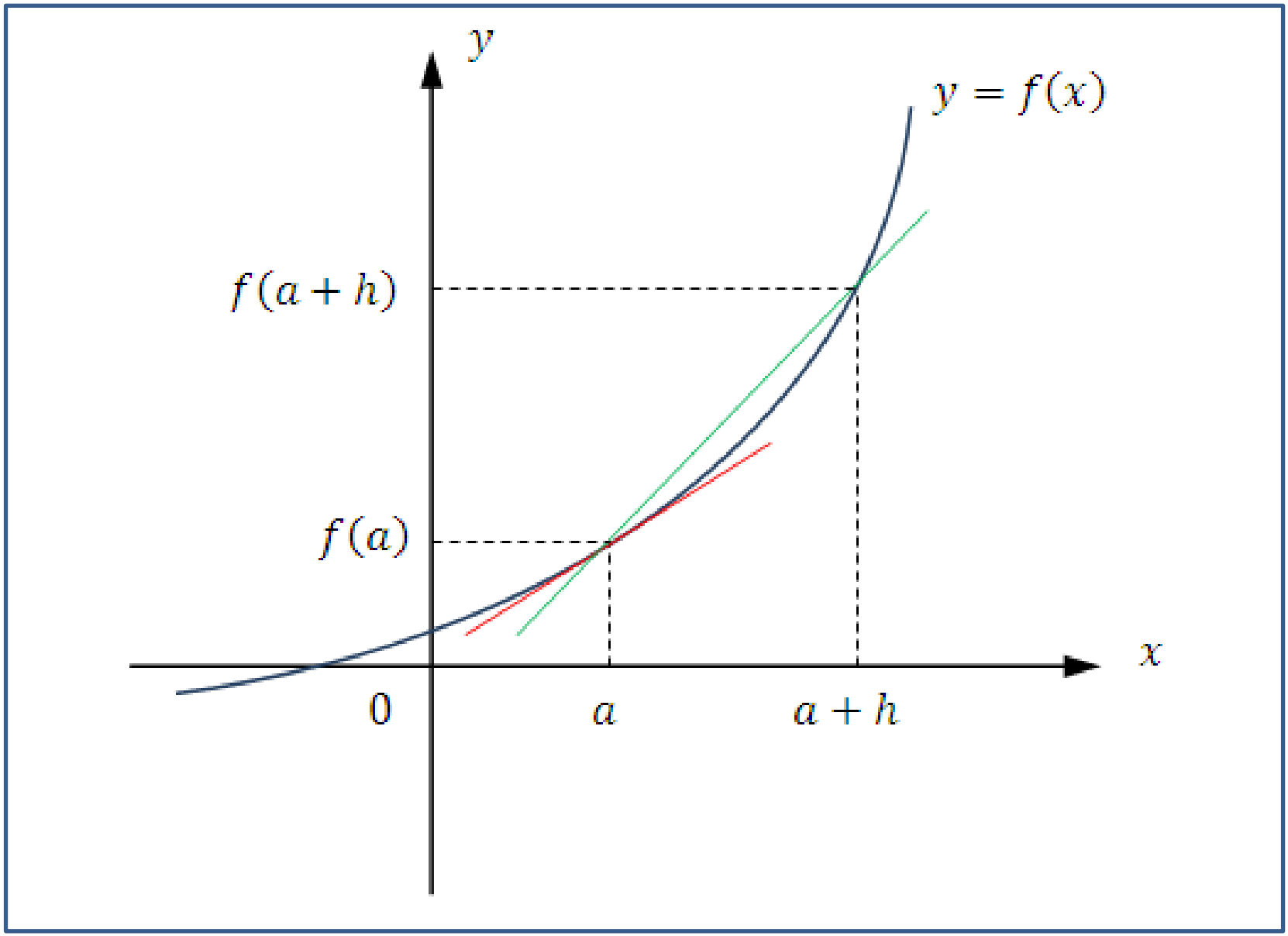
$$f'(x)$$

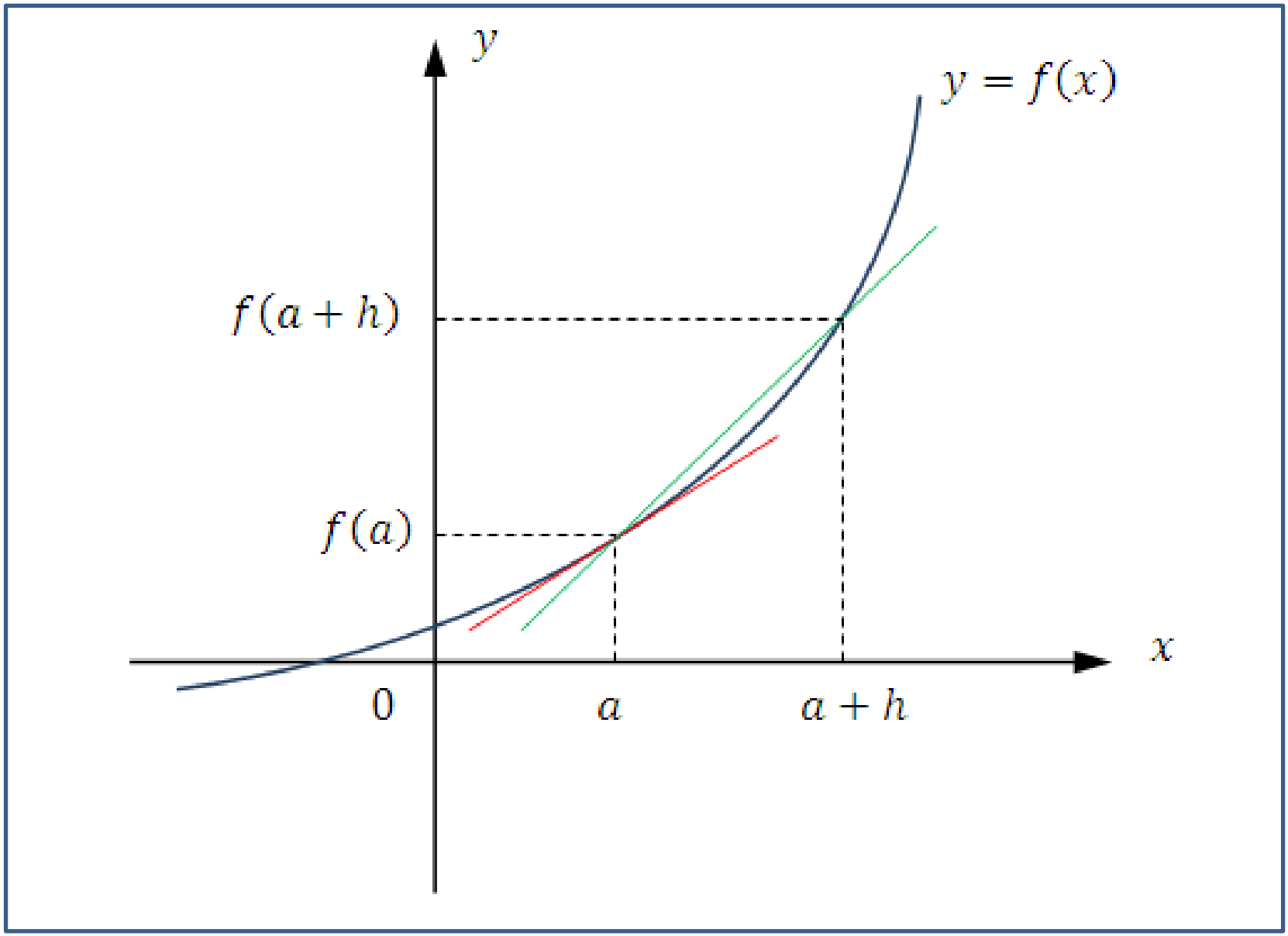

y
y = f(x)
f(a)
x
0
a

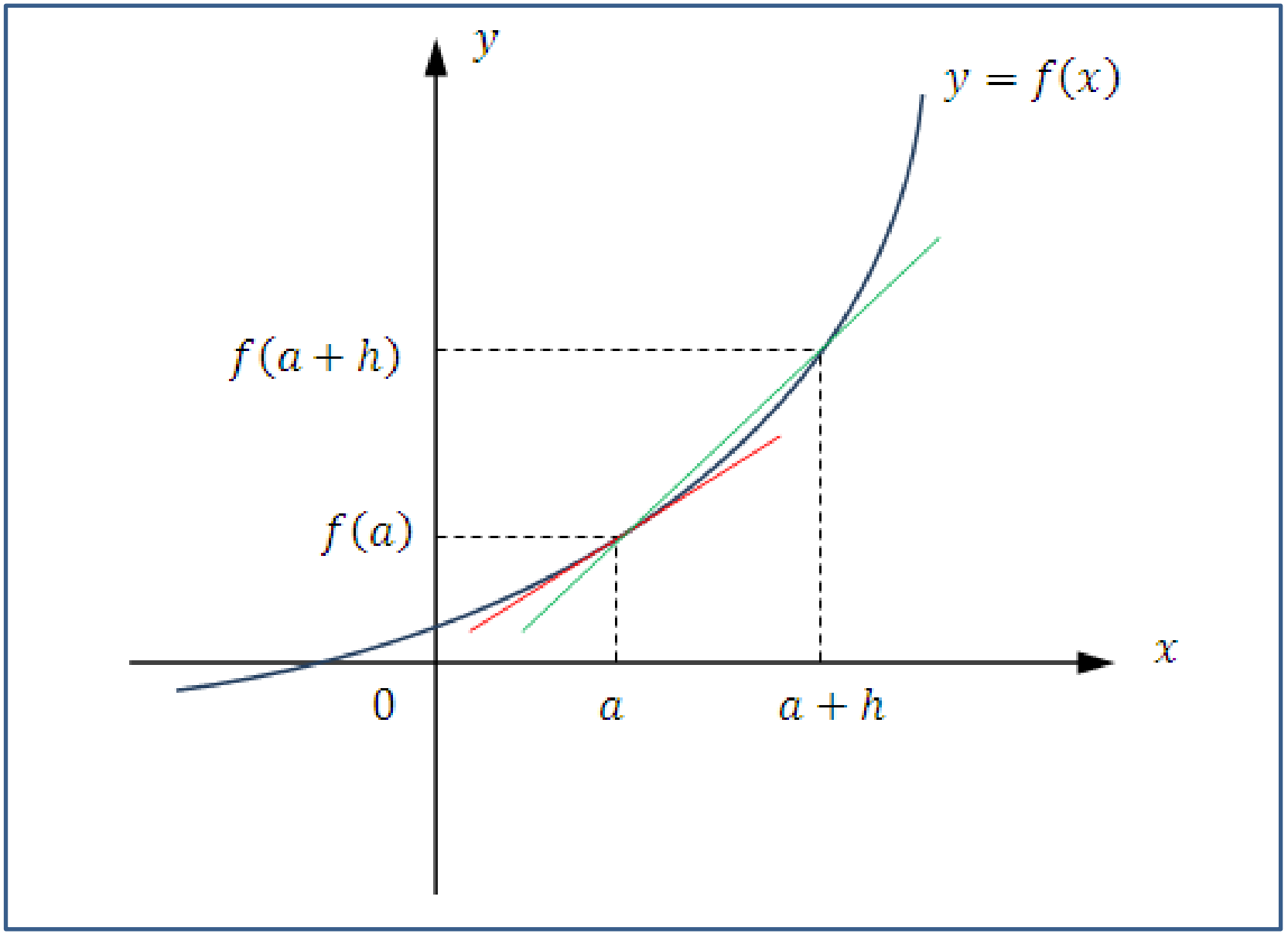

y
y = f(x)
f(a + h)
f(a)
x
0
a
a + h

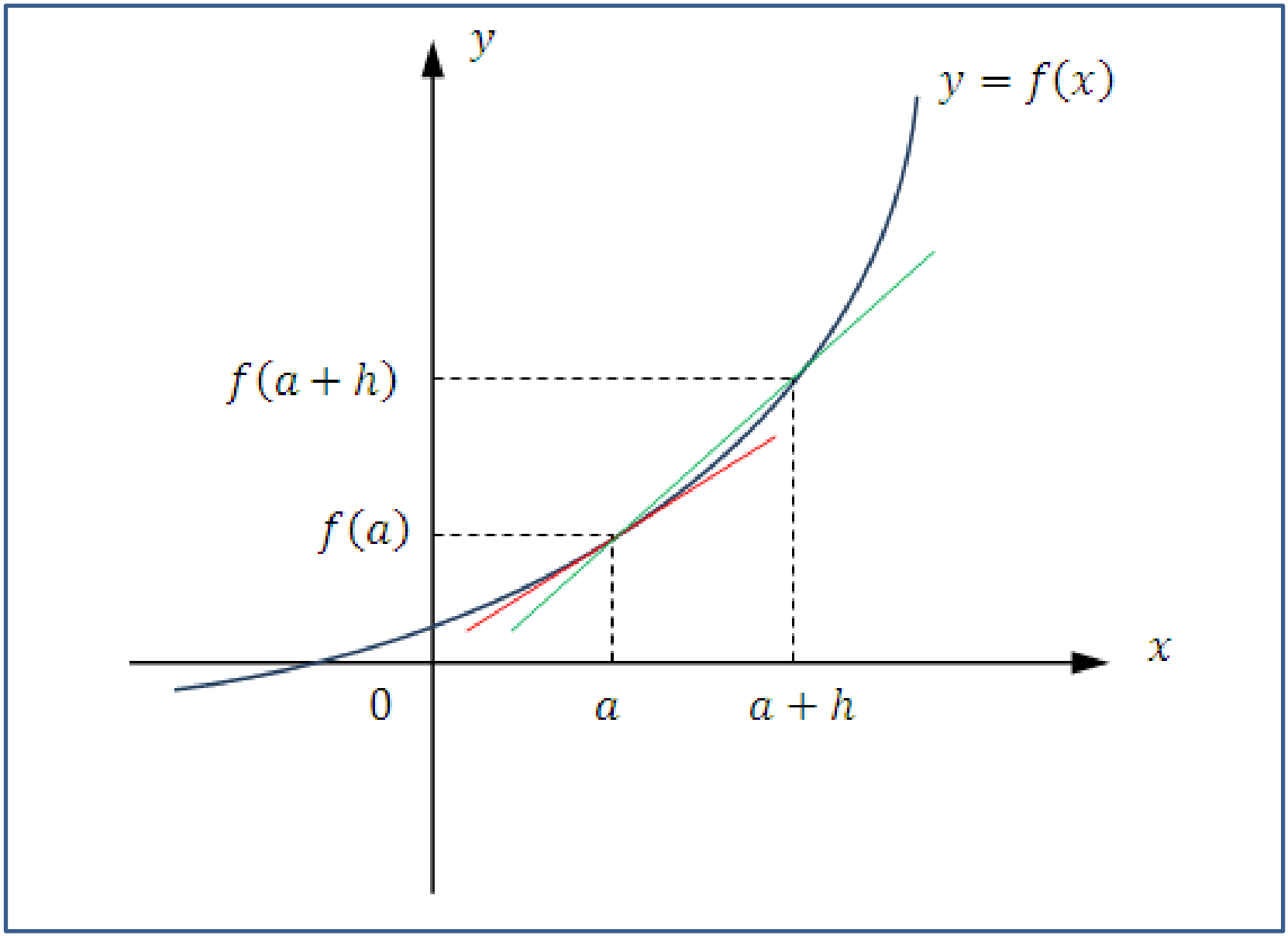

y
y = f(x)
f(a + h)
f(a + h) − f(a)
f(a)
h
x
0
a
a + h

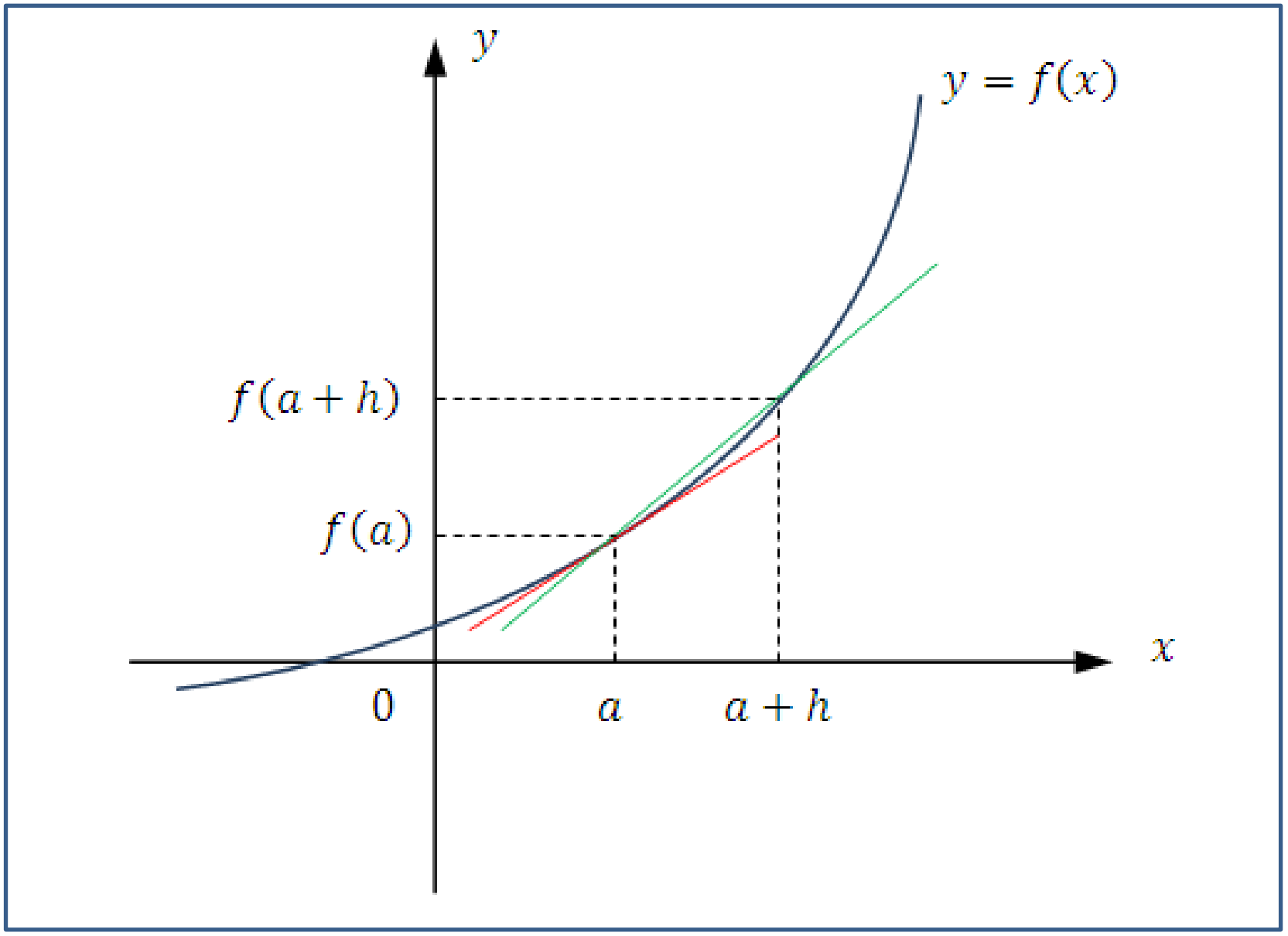
$$k = \frac{\Delta y}{\Delta x} = \frac{f(a+h) - f(a)}{h}$$

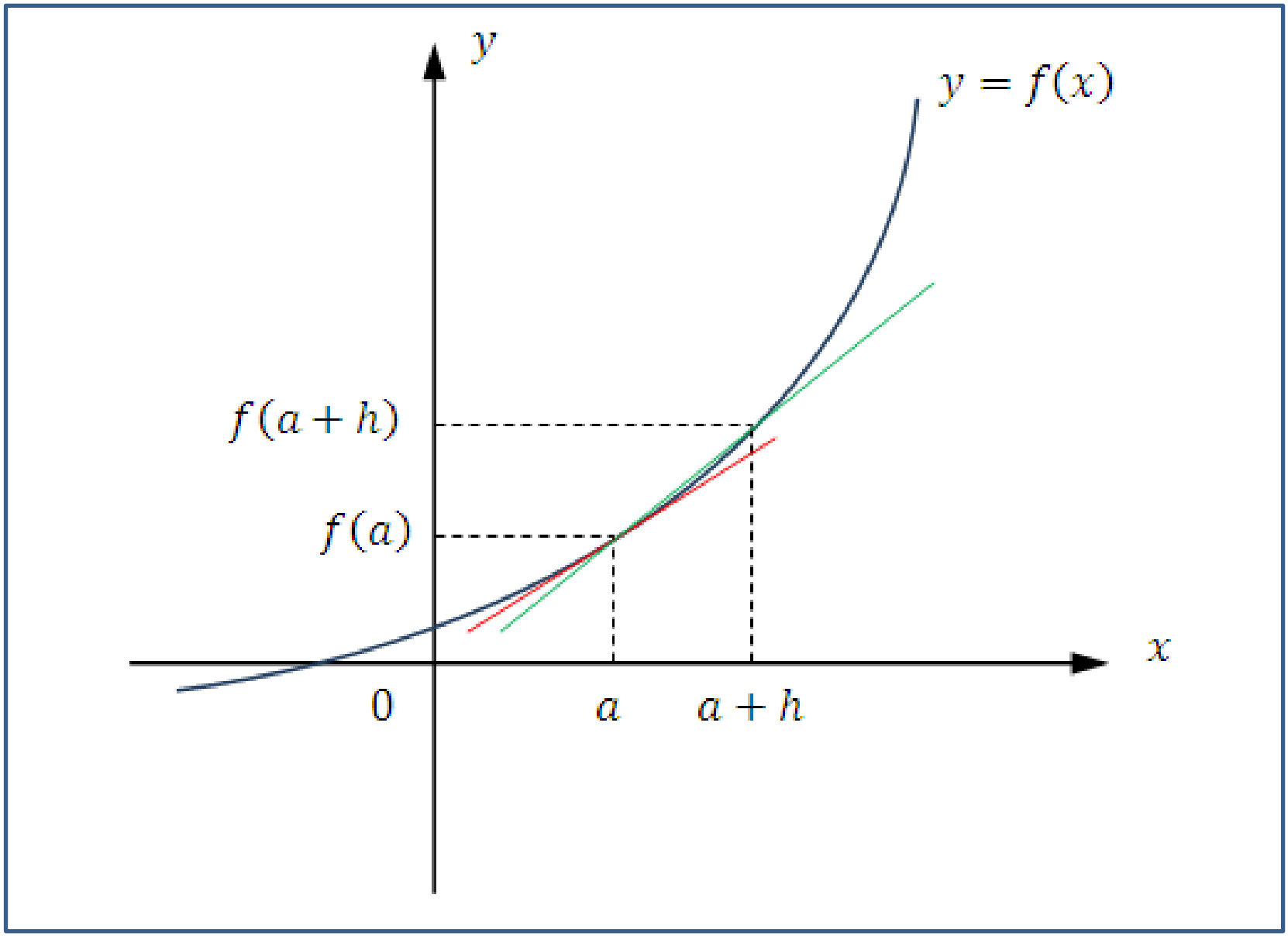

y
y = f(x)
f(a + h)
f(a)
x
0
a
a + h

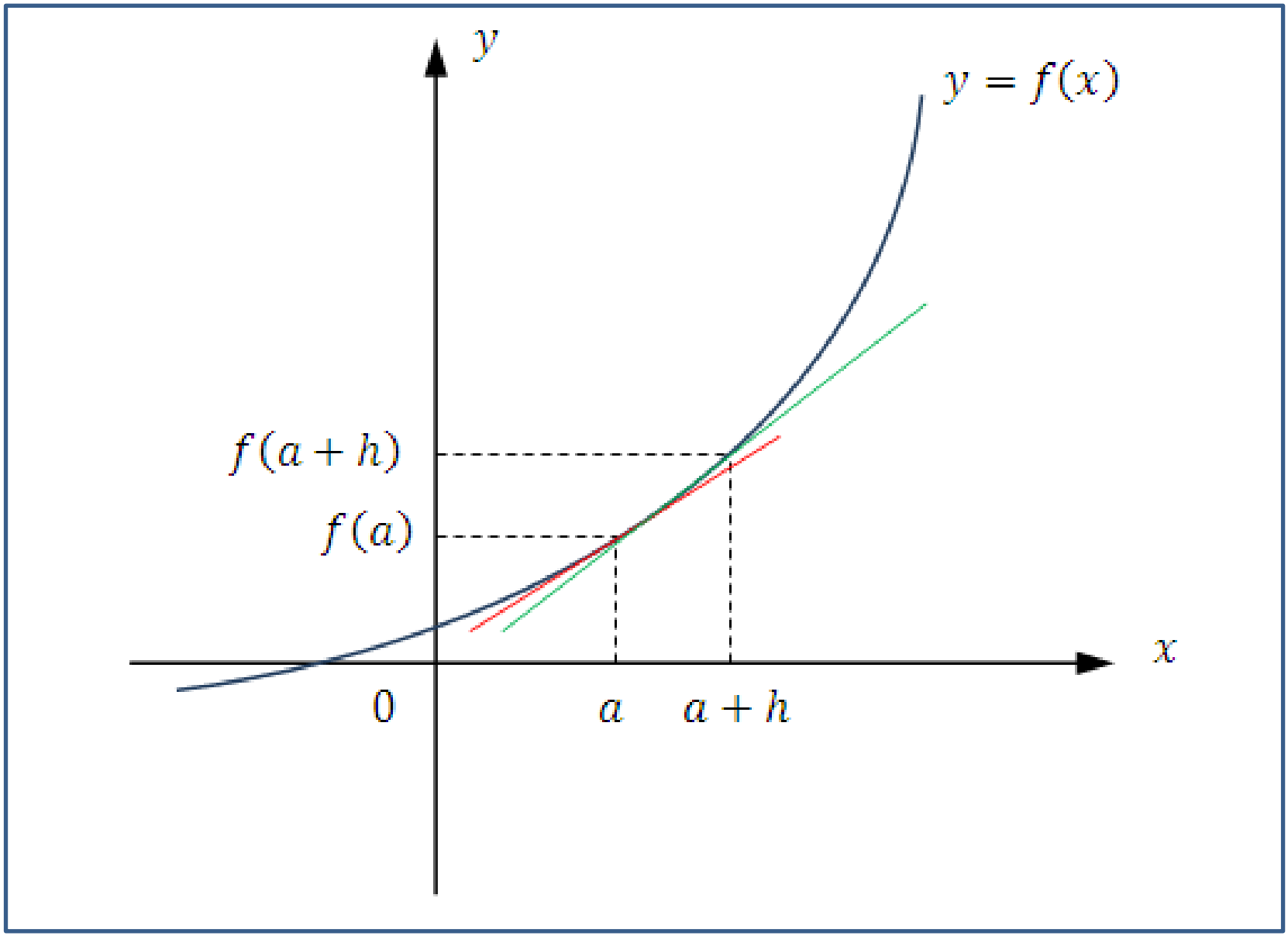

y
y = f(x)
f(a + h)
f(a)
x
0
a
a + h

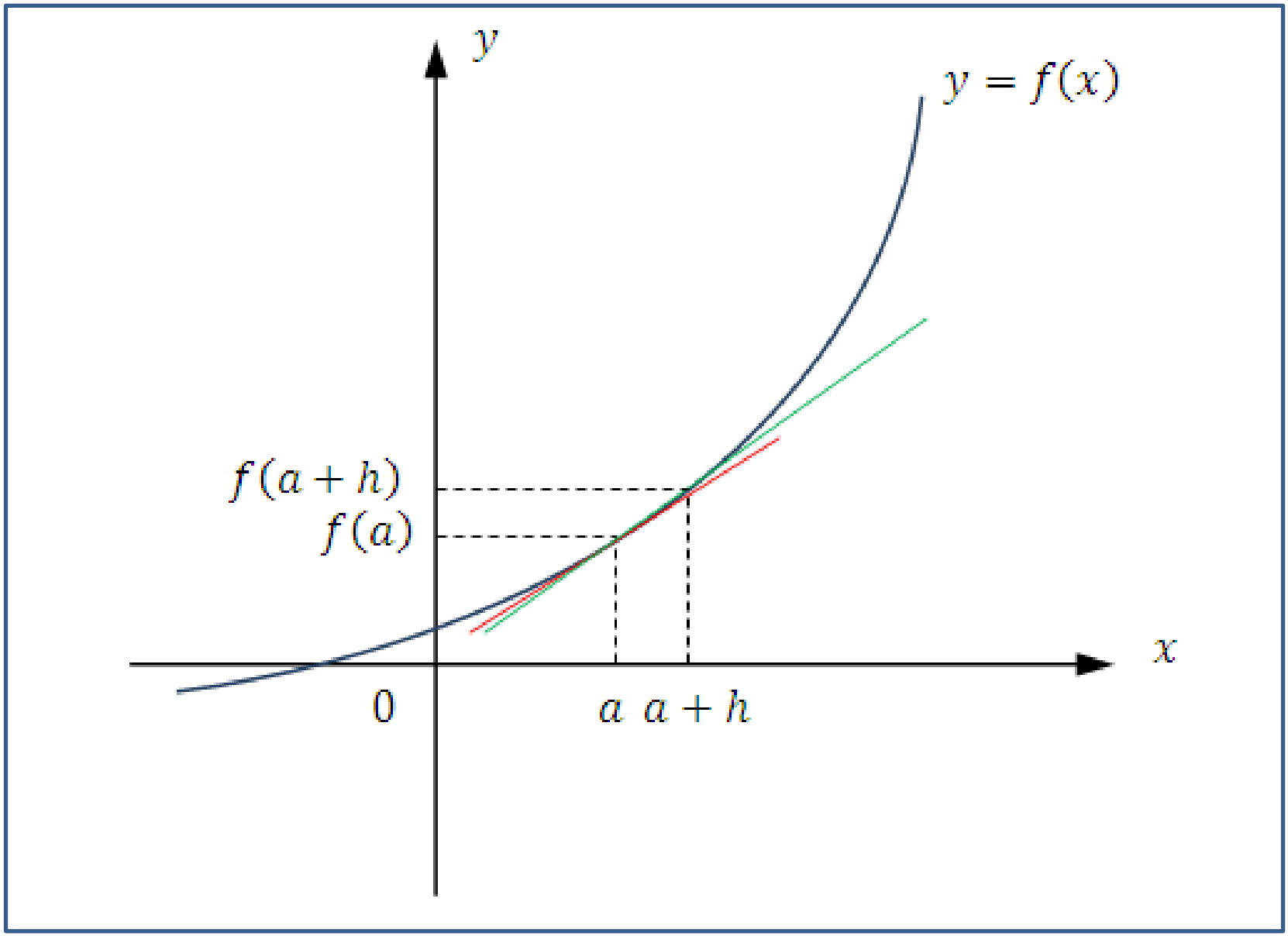

y
y = f(x)
f(a + h)
f(a)
x
0
a
a + h

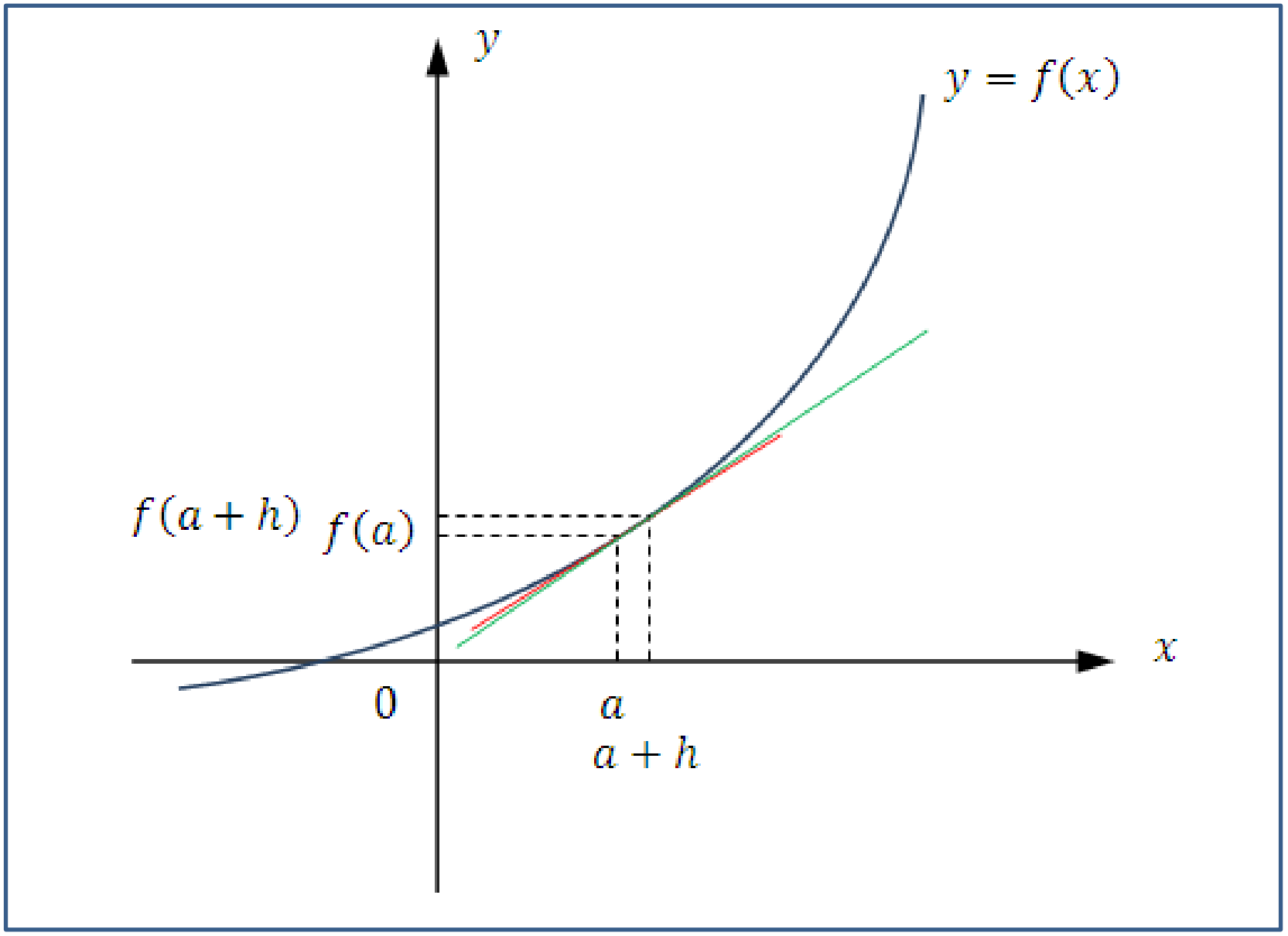

y
y = f(x)
f(a + h)
f(a)
x
0
a
a + h

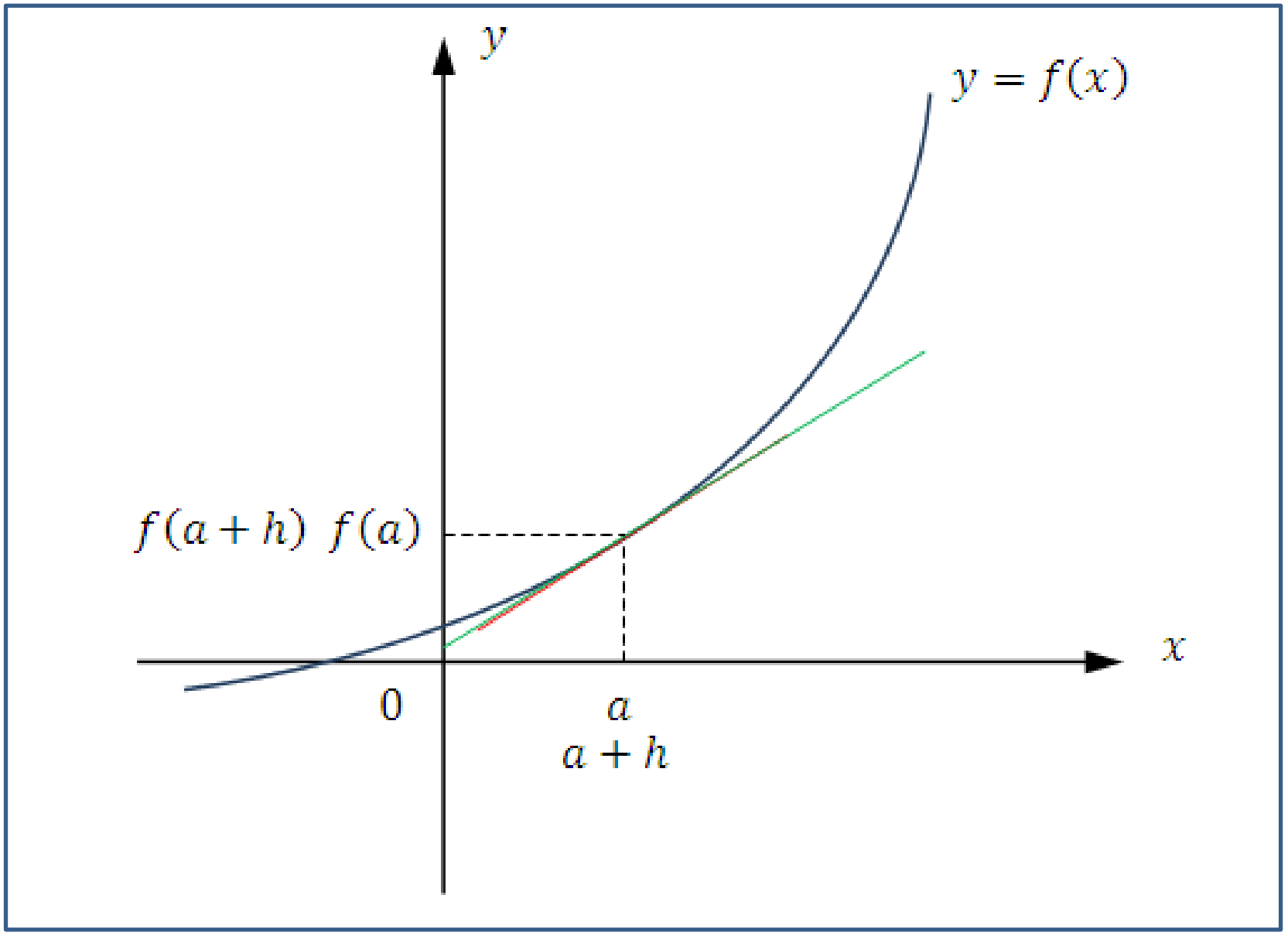

y
y = f(x)
f(a + h)
f(a)
x
0
a
a + h


y
y = f(x)
f(a + h)
f(a)
x
0
a
a + h

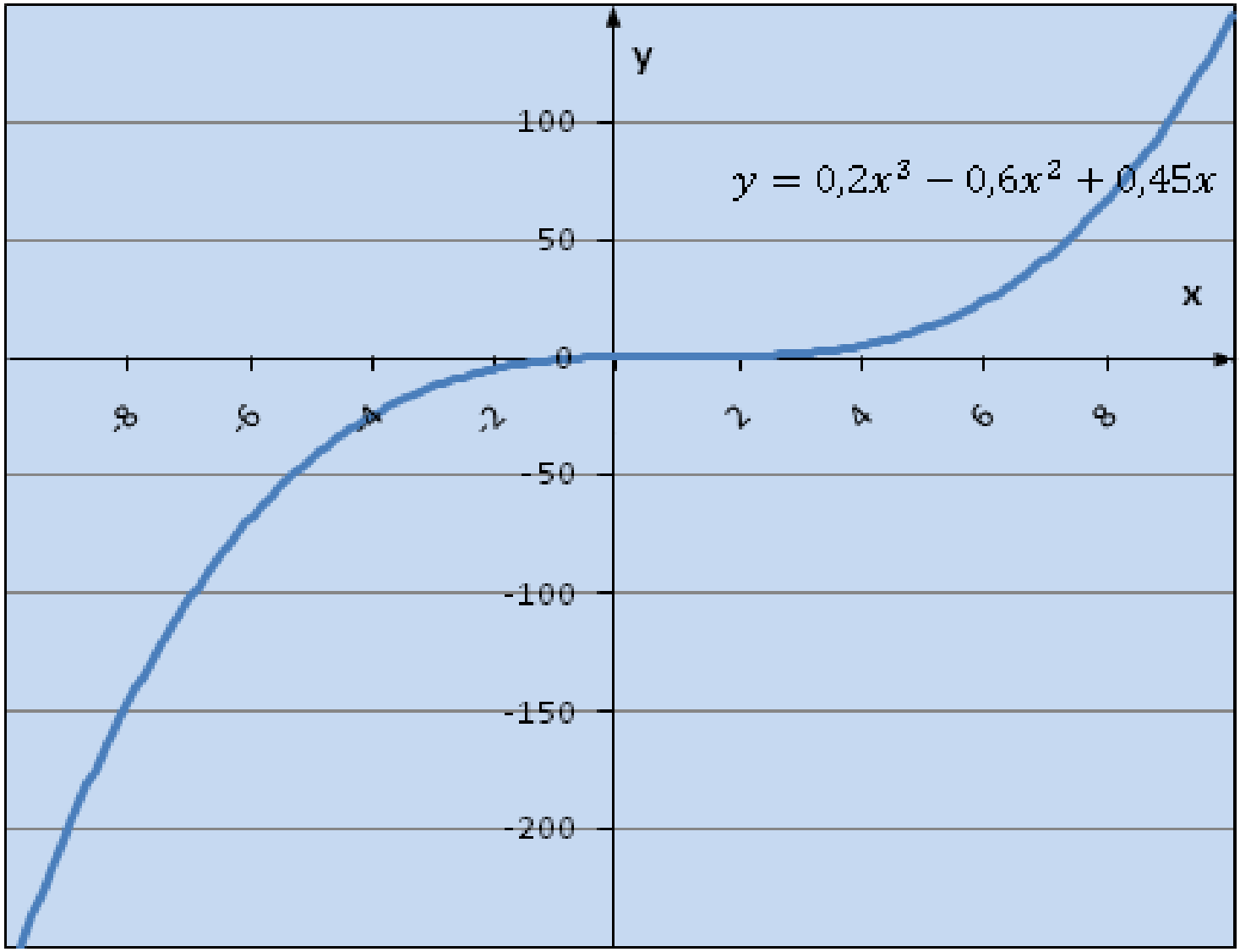

y
y = f(x)
f(a + h)
f(a)
x
0
a
a + h

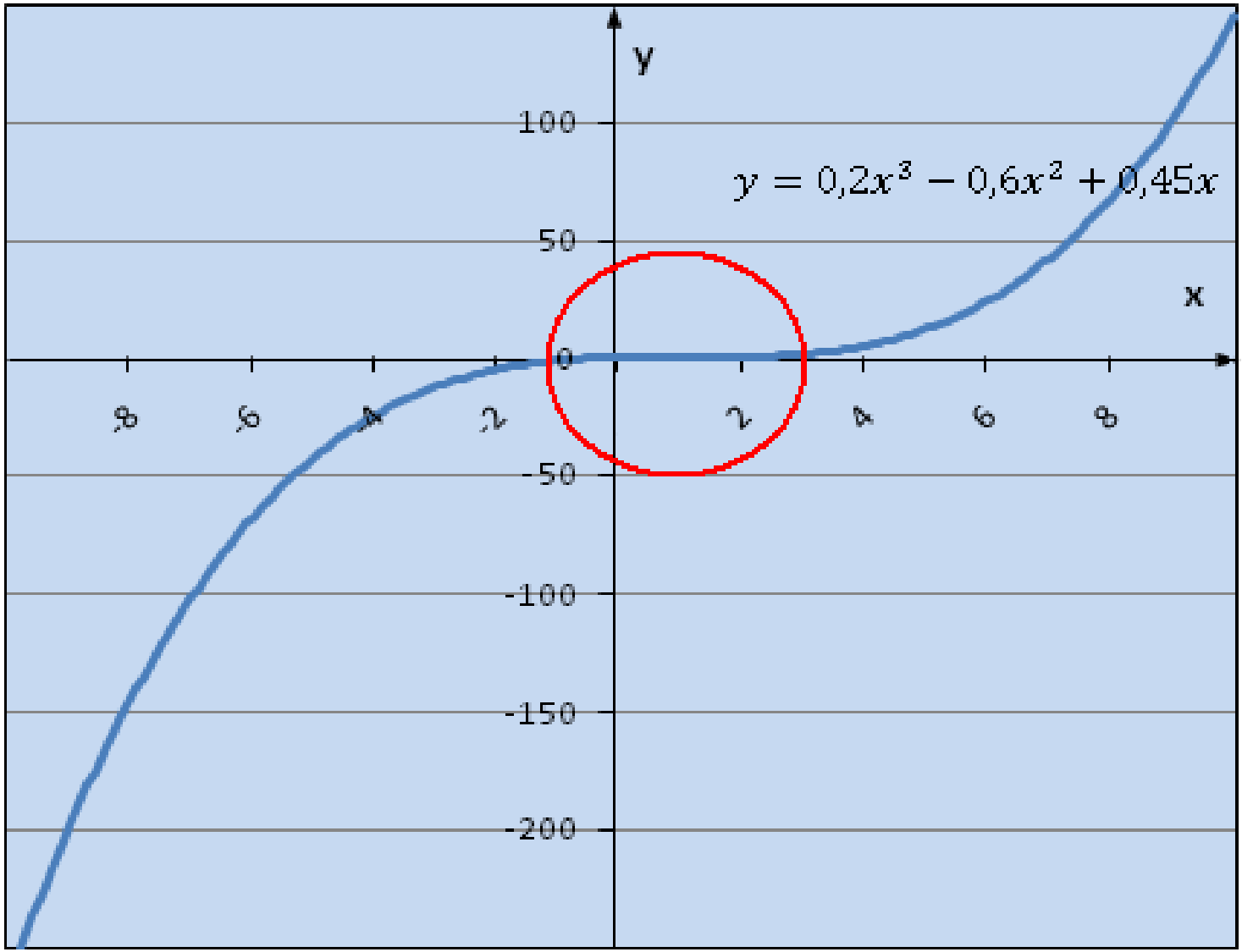

y
y = f(x)
f(a + h)
f(a)
x
0
a
a + h

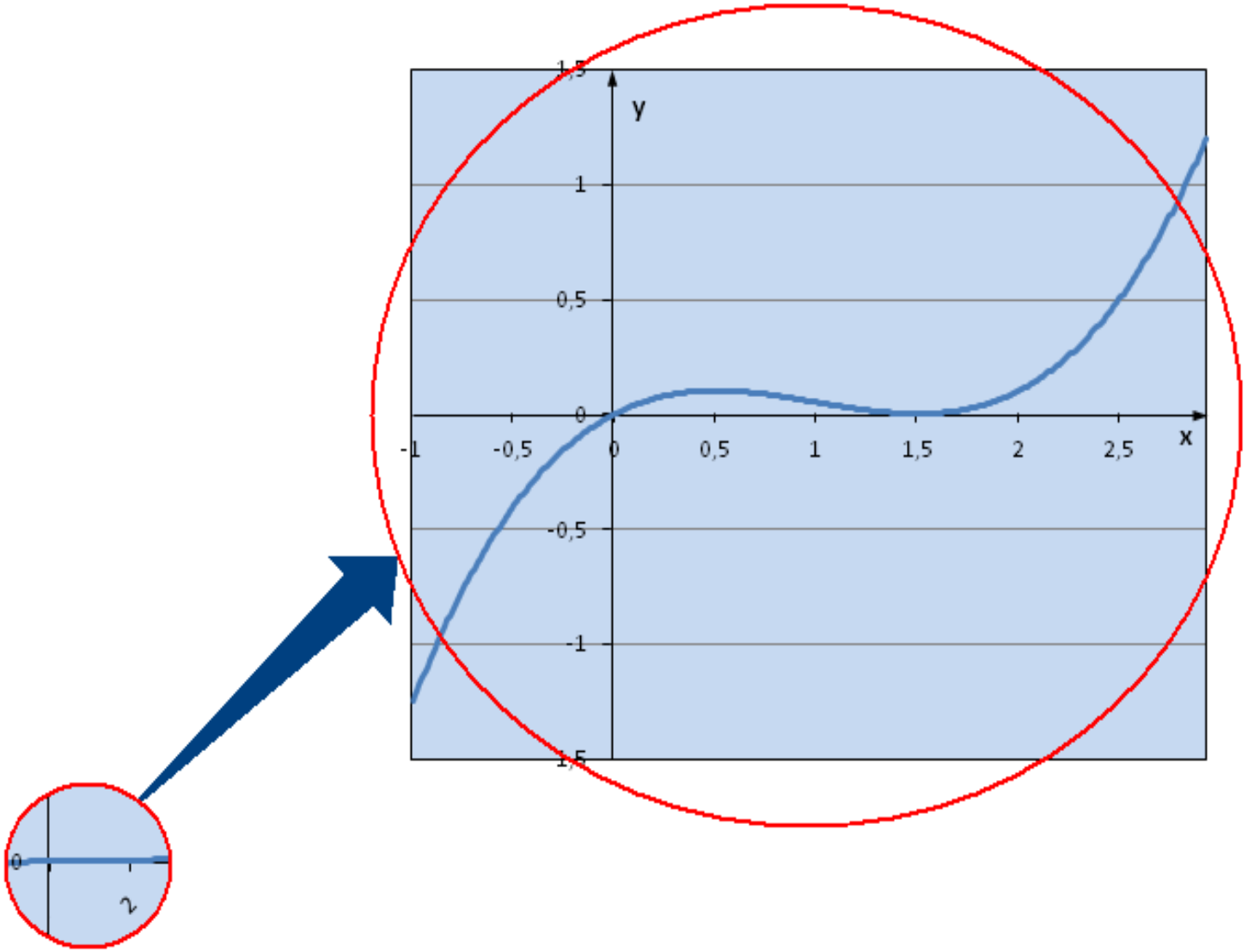

y
y = f(x)
f(a + h)
f(a)
x
0
a
a + h


y
y = f(x)
f(a + h)
f(a)
x
0
a
a + h

$$k = \lim_{h \to 0} \frac{f(a+h) - f(a)}{h} = f'(x)$$


y
x
100
50
0
-50
-100
-150
-200
$y = 0{,}2x^3 - 0{,}6x^2 + 0{,}45x$


y
x
100
50
0
-50
-100
-150
-200
$y = 0{,}2x^3 - 0{,}6x^2 + 0{,}45x$


y
x
1,5
1
0,5
0
-0,5
-1
-1,5
-1
-0,5
0
0,5
1
1,5
2
2,5
0
2

Kontinuerliga och deriverbara funktioner

Polynomfunktioner

Växande och avtagande funktioner

Extrempunkter

Kurvkonstruktioner