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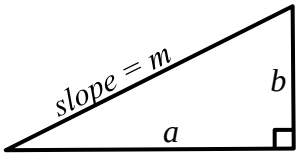
Group Work GW19: The Idea Behind Newton's Method

(a) In the triangle shown, find an equation for the slope m of the hypotenuse in terms of the lengths a and b.



$m =$

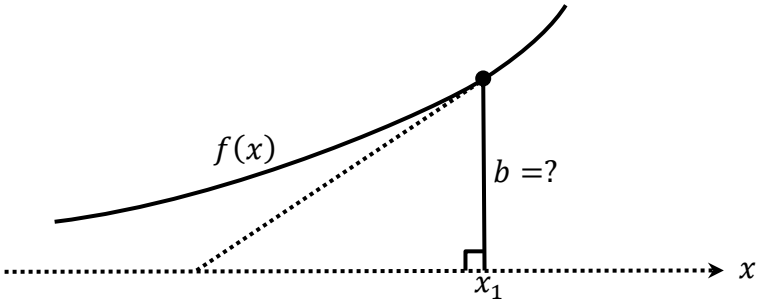
(b) Solve the equation for a in terms of m and b:

$a =$

(c) In the triangle shown, the upper right vertex lies on the graph of f.

How tall is the right leg?

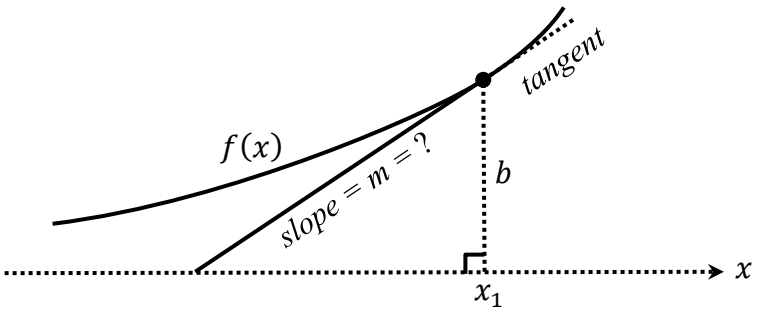
$b =$



(d) Suppose that it is also known that the hypotenuse of the triangle lies on the line that is tangent to the graph of f at the point where $x = x_1$

What is the hypotenuse slope m?

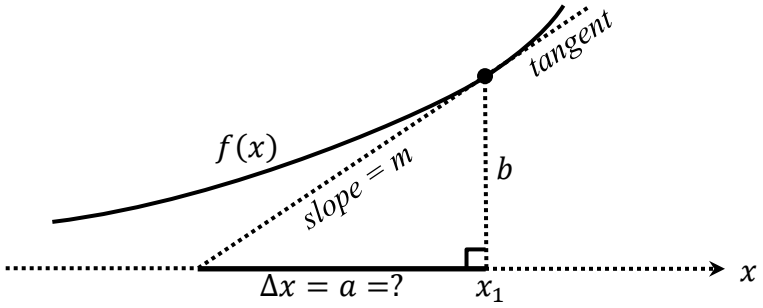
$m =$



The Group Work continues on back ➔

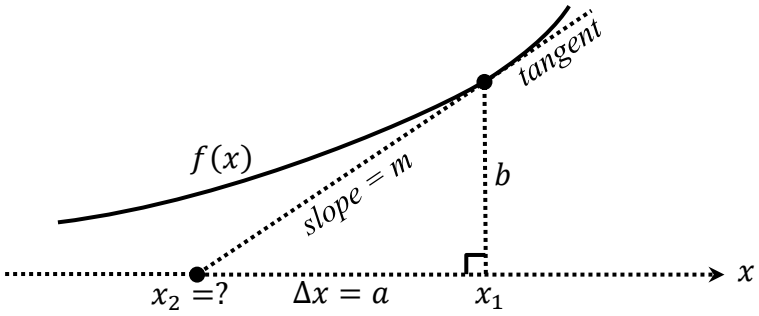
(e) For the same triangle, what is the base Δx?

$\Delta x = a =$



(f) For the same triangle, what is the x-coordinate x_2?

$x_2 =$



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