Put answers in the boxes provided on this page. Show high quality work in your blue book for all answers. Points may be awarded for this. Number your solutions in the blue book. At the end of the exam, place this page INSIDE your blue book. TA: Gen Sam Trevor Section Time: Sam Gpm 7pm 1. [/6] Use the graph given to find the following as decimal numbers. (a) Solve $\log(y) = 3.62$ (b) Find $\log(2.75^{100})$ (c) What is the derivative of $f(x) = 10^n$ at $x = 0.47$ (a) $\frac{df}{dx}$ (b) $f'''(x)$ (c) $f'''(x)$ (d) What is the value of x for which the slope of the graph is 1? (e) What is the value of x for which the slope of the graph is 1? (f) What is the value of x for which the slope of the graph is 1? (g) $f'''(x) = \frac{d}{dx}(x) = d$	Math 34A Winter 2020 Old Final Exam #2	PRINT NAME		Excellence Bonus				
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6.	[/8] A rectangular field has one side along a river. The opposite side is brick. The two remaining sides are fence. The length of the brick side is L meters. A meter of fence costs \$20 and a meter of brick costs \$5.	(a)	For which value of x is $f'(x) = 0$? 1.5
(a)	Express the total cost of the fence and brick in terms of the length and width of the field.	(b)	For which values of x is $f''(x) > 0$?
	In parts (b), (c), and (d), the total cost is \$2,000.	(c)	What is the slope of the graph at $x = 1$?
	Express the length of the brick wall in terms of the width.	8. (a)	[$/6$] Let $f(x) = 20\sqrt{x}$. Find $f'(4)$.
(c)	Express the area of the field in terms of the width.	(b)	[Simplify your answer to something like $7/3$.] Find the tangent line approximation to $y = f(x)$ at
(d)	What width gives a field with largest area?	(c)	$x=4.$ Use this to approximate the value of $20\sqrt{5}$.
9.	[/8] Carol's chocolate cookies cost \$2 each and she sells 2200 at this price. For each cent she raises the price she sells 5 fewer cookies. The ingredients for 10 cookies cost \$2.	10.	and drive to Paris. They drive at constant speed U for the first 2 hours and constant speed V for next 3 hours and then arrive
	If Carol increases the price of a cookie by x cents: How many cookies will she sell?		in Paris. The length of the route they drive is 720 km. They drive 60 km more in the last 3 hours than in the first 2 hours.
			Write two equations for U and V .
(b)	How many dollars profit does she make on each cookie?		equation equation
(c)	Express the total profit (in $\$$) in terms of x .		U =
(d)	What should x be to make the most profit?		How far are they from Paris at 2pm?
(e)	What should the price in \$ of one cookie be to make the most profit?		