

DiffyQ Prereq A

DiffyQ
MAP2302 4689
Prof. J. King

A1: 140pts

Total: 140pts

A1: Show no work.

$[\sqrt{3}^{\sqrt{2}}]^{\sqrt{8}} =$ $\log_8(4) =$

Please PRINT your Name

b The slope of line $3[y - 5] = 2[x - 2]$ is

Point $(-4, y)$ lies on this line, where $y =$.

c The solutions to $3x^2 = 2 - 2x$
are $x =$.

d Quadratic $15x^2 + 23x + 6 = [Ax - \alpha] \cdot [Bx - \beta]$,
for numbers $A = \dots$, $\alpha = \dots$; $B = \dots$, $\beta = \dots$.

e For $x > 0$, let $B(x) := x^x$. Its derivative is $B'(x) =$

[Hint: How is y^z , for $y > 0$, defined in terms of the exponential func?]

 Below, f and g are differentiable fncs with

$$\begin{aligned} f(2) &= 3, & f(3) &= 5, & f'(2) &= 19, & f'(3) &= 17, \\ g(2) &= 11, & g(3) &= 13, & g'(2) &= \frac{1}{2}, & g'(3) &= 7, \\ f(5) &= 43, & g(5) &= 23, & f'(5) &= 41, & g'(5) &= 29. \end{aligned}$$

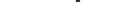
Define the composition $C := g \circ f$. Then

$$C(2) = \quad ; \quad C'(2) = \quad .$$

Please write each answer as a product of numbers;
do not multiply out. [Hint: The Chain rule.]

 **Math-Greek alphabet:** Please write the two missing data of lowercase/uppercase/name. Eg:

“iota: α : B: .” You fill in: ι I A alpha β beta.

Ω:  Y:  H: 

σ : γ : ξ :

lambda rho delta mu

↳ ↳ ↳ ↳

HONOR CODE: *"I have neither requested nor received help on this exam other than from my professor."*

Signature:

End of DiffyQ Prereq A