Math 142
Calculus II
Fall 2001, USC

Aug 23, 2001

QUIZ 0 (Review)

1. Let $f(x) = x + 1$ and $g(x) = x^2$. Find

a) $f(1) + g(1)$ **b)** $f\Big(g(2)\Big)$ **c)** $g\Big(f(2)\Big)$ **d)** $f\Big(g(1) + g(2)\Big)$

2. Differentiate:

a) x^3 **b)** $\dfrac{1}{x}$ **c)** $\sin\sqrt{x}$ **d)** $\dfrac{x^2+1}{\cos x}$ **e)** $\tan x$

3. Integrate:

a) $\cos x$ **b)** $\dfrac{1}{x^2}$ **c)** $x \sin x^2$

4. Find the area enclosed by $y = 1/x^2$, the x-axis, $x = 1$ and $x = 2$.

5. Fill in the right hand sides:

a) $\dfrac{d}{dx}\displaystyle\int_1^x \tan t\, dt = ?$ **b)** $\dfrac{d}{dx}\displaystyle\int_1^x \frac{1}{t^2}\, dt = ?$ **c)** $\dfrac{d}{dx}\displaystyle\int_1^x f(t)\, dt = ?$

This quiz is not to be graded.

LaTeX ..... MG