

MATH 152
Mrs. Bonny Tighe

QUIZ 2
7.3-7.4
25 points

NAME _____
Section _____ Wed 9/14/05

1. Find the exact value: a) $3^{2\log_3 2} =$ _____ b) $\log_2 28 - \log_2 7 =$ _____

2. Solve for x.

a) $\log_3(4 - 2x) = 2$

b) $4e^{2x-1} = 8$

c) $2e^{2x} + 6e^x - 3 = 0$

3. Differentiate.

a) $f(x) = \ln(\cos^3 x)$

b) $y = \ln\left(x^3 \sin 3x / \sqrt{4+x}\right)$

4. Find an equation of the tangent line to the curve $y = \log_3 x^3$ at the point (3,3)

5. Use logarithmic differentiation to find the derivative of a) $y = x^{\tan 2x}$

b) ~~$y = \sqrt{(x+1)^3(3x+1)}$~~ $y = \sqrt{(x+1)^3(3x+1)}$

6. Evaluate:

a) $\int_0^2 \frac{x}{3+x^2} dx =$ _____

b) $\int \frac{\cos(\ln x)}{x} dx =$ _____

c) $\int \frac{e^{3x}}{3-e^{3x}} dx =$ _____

d) $\int \frac{2^{\sqrt{x}}}{\sqrt{x}} dx =$ _____