Math 141 Worksheet 4 Name_____

10/27/17 [/15]

Show all your work for full credit. Do the work on your own without help from tutors. Unsupported answers = reduced points. Round approximate values to four decimal places unless otherwise specified.

1. Find the missing value:

a) $\log_3\left(\frac{1}{81}\right) = x$

[/1]

b) $\log_b(200) = 4.2293$

[/1]

c) $\ln(A) = -3.7$

[/1]

d) $\log_5(21) = x$

[/1]

2. If $\log_b(1/2) = -2.31$ and $\log_b(3) = 2.64$ find $\log_b(72)$ (Don't find the base.)

[/2]

3. Completely expand and simplify the expression: $\log_3\left(\frac{(x-2)^3}{5\sqrt{y}}\right)$

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4. Write as a single logarithm: $-2\ln(x) + \frac{1}{3}\ln(y) + 4\ln(2) - \ln(3)$

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5. Find the inverse of the function $f(x) = \log_2(x + 3) - 5$ and give the domain and range of the inverse.

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6. Find the value of $\log_3(29)$ rounded to four decimal places. Show your work, not just the answer

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7. Find the value of $8^{2\log_4(5)}$ **without** a calculator.

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