Row # _____
Name _____

Review Ch 3
Math Analysis

Get out a sheet of lined paper, work problems on lined paper, then transfer answers to this Ditto. Staple together when finished.

No Calculator - Show all work

Change to Radical Form - then Evaluate:

1. $343^{2/3}$ = _____
2. $.064^{-1/3}$ = _____
3. $49^{3/2} + 49^{1/2}$ = _____
4. $81^{-1/2}$ = _____
5. $(8^{3/4})^{4/9}$ = _____
6. $\left(\frac{1}{64}\right)^{5/6}$ = _____

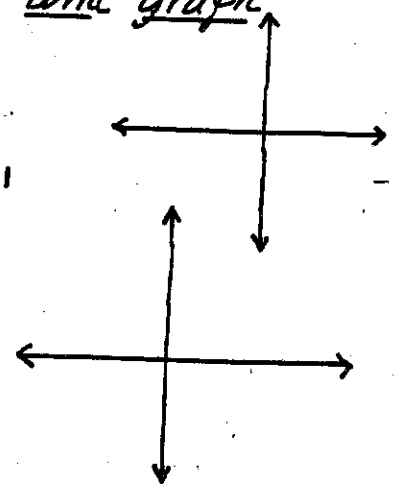
Simplify:

7. $[(2a)^3]^2$ = _____
8. $[(2a)^3]^{-2}$ = _____
9. $(4a^{1/3})^3$ = _____
10. $5z^3(5z)^{-3}$ = _____
11. $\left(\frac{1}{4}y^3\right)^4$ = _____
12. $(6a)^{1/3}(a^2b^3)^{1/3}$ = _____

Make a T-chart and graph

13. $y = 3^{x-2}$

14. $y = \left(\frac{1}{2}\right)^{x+1}$



Solve for x: Round to nearest thousandths place.

15. $\log_x \sqrt[3]{8} = \frac{1}{3}$ x = _____
16. $\log_5 2x = \log_5 (3x-4)$ x = _____
17. $\frac{1}{2}\log_3 64 - \log_3 x = \log_3 4$ x = _____
18. $3.6^x = 72.4$ x = _____
19. $4^{x+3} = 25.8$ x = _____
20. $6^{x-1} = 8^{2-x}$ x = _____

Find each value to nearest ten-thousandth

21. $\frac{e^2}{5}$ 21. _____
22. log 542 22. _____
23. antilog (-1.9101) 10^ 23. _____
24. ln .347 24. _____
25. antiln (1.1523) e^ 25. _____

Evaluate using logs

26. $\frac{20.1\sqrt{56}}{(2.65)^3} = x$ 26. _____

27. Find the present value of $3000 for 5 yrs at 7¼% compounded quarterly
27. _____

28. Find the present value of $6000 for 2.5 yrs at 11% compounded continuously.
28. _____

10-2

NAME _____ DATE _____

Practice

Student Edition
Pages 605–610

Logarithms and Logarithmic Functions

Write each equation in logarithmic form.

1. $5^3 = 125$

2. $27^{\frac{4}{3}} = 81$

Write each equation in exponential form.

3. $\log_{10} 0.00001 = -5$

4. $\log_{\frac{3}{2}} \frac{\sqrt{6}}{3} = -\frac{1}{2}$

Evaluate each expression.

5. $\log_3 81$

6. $\log_{10} 0.0001$

7. $\log_2 \frac{1}{16}$

8. $\log_{\frac{1}{3}} 27$

9. $\log_9 1$

10. $\log_8 4$

Solve each equation.

11. $\log_4 x = \frac{3}{2}$

12. $\log_y 16 = -4$

13. $\log_a \frac{1}{8} = -3$

14. $\log_7 n = -\frac{1}{2}$

15. $\log_{\sqrt{5}} y = \frac{4}{3}$

16. $\log_x \sqrt[3]{9} = \frac{1}{6}$

17. $\log_8(3x + 7) = \log_8(7x + 4)$

18. $\log_7(8x + 20) = \log_7(x + 6)$

19. $\log_3(9x - 1) = \log_3(4x - 16)$

20. $\log_{12}(x - 9) = \log_{12}(3x - 13)$

21. $\log_5(x^2 - 30) = \log_5 6$

22. $\log_4(x^2 + 6) = \log_4 5x$

NAME _____ DATE _____

Practice

Student Edition
Pages 611–616

Properties of Logarithms

Evaluate each expression.

1. $n^{\log_n 3}$

2. $14^{\log_{14} 6}$

Use $\log_{10} 5 = 0.6990$ and $\log_{10} 7 = 0.8451$ to evaluate each expression.

3. $\log_{10} 35$

4. $\log_{10} \frac{7}{5}$

5. $\log_{10} 25$

6. $\log_{10} 490$

7. $\log_{10} \left(1\frac{3}{7}\right)$

8. $\log_{10} 0.05$

Solve each equation.

9. $\log_6 x + \log_6 9 = \log_6 54$

10. $\log_8 48 - \log_8 w = \log_8 4$

11. $\log_7 n = \frac{2}{3} \log_7 8$

12. $\log_3 y = \frac{1}{4} \log_3 16 + \frac{1}{3} \log_3 64$

13. $\log_9 (3u + 14) - \log_9 5 = \log_9 2u$

14. $\log_7 x + \log_7 x - \log_7 3 = \log_7 12$

15. $4 \log_2 x + \log_2 5 = \log_2 405$

16. $\log_6(2x - 5) + 1 = \log_6(7x + 10)$

17. $\log_{16}(9x + 5) - \log_{16}(x^2 - 1) = \frac{1}{2}$

18. $\log_8(n - 3) + \log_8(n + 4) = 1$

19. $\log_6(3m + 7) - \log_6(m + 4) = 2 \log_6 6 - 3 \log_6 3$

20. $\log_2(2x + 8) - \log_2(2x^2 + 21x + 61) = -3$