

Algebra II Honors Ch 4 HW Syllabus*

Day	Date	Description	Homework
1		4.4 Evaluating Logarithms - <i>definition, evaluating, inverse properties</i> 4.5 Properties of Logarithms - <i>expand, condense</i>	<ul style="list-style-type: none"> p. 255 (1-21 odd, 29-35 odd, 55, 57) p. 262 (1, 3-6, 15-43 eoo)
2		4.5 Properties of Logarithms - <i>approximating with properties, change of base, more expanding and condensing</i> Review	<ul style="list-style-type: none"> p. 262 (2, 7-14 all, 44, 53-61 odd) p. 265 (1-4 all) 4.5 Extra Practice WKST (11-19 odd) Set A
3		4.1/4.2 Exponential Graphs 4.4 Logarithmic Graphs Review	<ul style="list-style-type: none"> Graphing Exponential and Logarithmic Functions WKST
4		Quiz: 4.1,4.2,4.4,4.5 4.6 Solving Exponential and Logarithmic Equations - <i>solving exponential equations by making bases equal</i>	<ul style="list-style-type: none"> Graphing Exponential and Logarithmic Functions WKST p. 271 (1, 3-11 all)
5		4.6 Solving Exponential and Logarithmic Equations - <i>solving exponential equations by using logarithms</i>	<ul style="list-style-type: none"> p. 271 (13-23 odd, 48, 49, 52, 53) <i>*Use a calculator for 13-23 odd, 48 & 49.</i>
6		4.6 Solving Exponential and Logarithmic Equations - <i>solving logarithmic equations</i>	<ul style="list-style-type: none"> Solving Logarithmic and Exponential Equations Worksheet (1-15)
7		4.6 Solving Exponential and Logarithmic Equations - <i>mixed practice, finding inverses</i> 4.7 Word Problems - <i>compound interest</i>	<ul style="list-style-type: none"> Solving Logarithmic and Exponential Equations Worksheet (17-37 odd) Exponential Models WKST (1, 2, 4, 7, 8) Set B
8		Quiz: Solving & Sketching 4.7 Word Problems - <i>growth/decay models, "other" models</i>	<ul style="list-style-type: none"> Exponential Models WKST (3, 5, 6, 9, 11-18)
9		Ch 4 Review	<ul style="list-style-type: none"> Ch 4 Review WKST
10		Ch 4 Test	<ul style="list-style-type: none"> Midterm Review WKST

*This syllabus is subject to change.

power people

SET A

1. Without the use of a calculator, determine which two consecutive integers each expression below falls between. Explain your reasoning.

a) $\log_3 8$

b) $\log_5 \left(\frac{1}{2}\right)$

c) $\log_{25}(4)$

2. Evaluate each expression.

a) $\ln \frac{1}{\sqrt{e}}$

b) $2\log_{24} 6 + 2\log_{24} 4$

c) For the intelligent: $9^{\log_3 4 + \log_9 4}$

3. Expand the expression.

a) $\log_2 \sqrt{x^2 + 1}$

b) $\log_6 \sqrt{\frac{a^2 - 4}{a^5}}$

c) $\log_7 \frac{a^6(b-4)^3}{c^2 + 2}$

4. Condense the expression.

a) $\log a - 3\log b - \log(c + 2) + \frac{3}{2}\log d$

b) $\frac{1}{3}\ln x + \frac{2}{3}\ln x - \frac{5}{3}\ln x + 2$

SET B

Find the inverse function.

1. $f(x) = 3(2)^{x-5} + 4$

2. $g(x) = \left(\frac{1}{2}\right)^x - 3$

3. $h(x) = 2\log_5(x+4) - 1$

4. $m(x) = 6 - \ln(3x)$

SET ANSWERS

SET A

1.

a) Since $\log_3 3 < \log_3 8 < \log_3 9$,
then $1 < \log_3 8 < 2$

b) Since

$\log_5\left(\frac{1}{5}\right) < \log_5\left(\frac{1}{2}\right) < \log_5(1)$, then

$-1 < \log_5\left(\frac{1}{2}\right) < 0$

c) Since

$\log_{25}(1) < \log_{25}(4) < \log_{25}(25)$,
then $0 < \log_{25}(4) < 1$

2.

a) -0.5

b) 2

c) 64

3.

a) $\frac{1}{2} \log_2(x^2 + 1)$

b) $\frac{1}{2}(\log_6(a+2) + \log_6(a-2) - 5 \log_6 a)$

c) $6 \log_7 a + 3 \log_7(b-4) - \log_7(c^2 + 2)$

4.

a) $\log \frac{a\sqrt{d^3}}{b^3(c+2)}$

b) $\ln \sqrt[3]{\frac{e^6}{x^2}}$

SET B

1. $f^{-1}(x) = \log_2\left(\frac{x-4}{3}\right) + 5$

2. $g^{-1}(x) = \log_{1/2}(x+3)$

3. $h^{-1}(x) = 5^{\frac{x+1}{2}} - 4$

4. $m^{-1}(x) = \frac{1}{3}e^{6-x}$