

7-106.

LOG PROPERTY PUZZLES

Obtain the Lesson 7.2.2 Resource Page from your teacher or copy the table below. Use the log properties to fill in the missing parts. Be sure to remember that in every row, each expression is equivalent to every other expression.

Product Property			Quotient Property		
$\log_3 60 = \log_3 6 + \underline{\quad} = \log_3 3 + \underline{\quad} =$	$\log_3 120 - \underline{\quad} = \log_3 240 - \underline{\quad}$				
$\log_7 36 = \underline{\quad} = \underline{\quad} =$	$\underline{\quad} = \underline{\quad} =$				
$= \log_6 9 + \log_6 2 = \underline{\quad} = \underline{\quad} =$	$\underline{\quad} = \underline{\quad} =$				
$= \underline{\quad} = \underline{\quad} =$	$= \log_{25} 75 - \log_{25} 1.5 = \underline{\quad} = \underline{\quad} =$				
$= \underline{\quad} = \underline{\quad} =$	$= \log 160 - \log 4 = \underline{\quad} = \underline{\quad} =$				

*Algebra 2 Connections*

7-107.

Use the properties of logs to write each of the following expressions as a single logarithm, if possible.

- |  |   |
|--|---|
| a. $\log_{1/2}(4) + \log_{1/2}(2) - \log_{1/2}(5)$ | b. $\log_2(M) + \log_3(N)$                |
| c. $\log(k) + x \log(m)$                           | d. $\frac{1}{2} \log_5 x + 2 \log_5(x+1)$ |
| e. $\log(4) - \log(3) + \log(\pi) + 3 \log(r)$     | f. $\log(6) + 23$                         |

7-111.

Solve each of the following equations to the nearest 0.001.

- |                            |                             |
|----------------------------|-----------------------------|
| a. $(5.825)^{(x-3)} = 120$ | b. $18(1.2)^{(2x-1)} = 900$ |
|----------------------------|-----------------------------|