

Name: _____

Date: _____

Learning Goal 0.2	Expectations for algebra from previous years.
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Power Law	Product Law	Quotient Law	Change of Base

Example Simplify the following expression, stating any possible restrictions on the variable.

a. $\log_8 32 + \log_{16} 2$

b. $4 \log_3 x - \frac{1}{2}(\log_3 x + 5 \log_3 x)$

c. $\log_7 x^4 + \frac{1}{3}(\log_7 x^2 - \log_7 \sqrt{5x})$

d. $\frac{\log 16x^8}{4} - \frac{\log 27x}{3}$

Example Solve for x . State any restrictions on the variable and verify your answers.

a. $\log_2 x = \log_2 18 - \log_2 6$

b. $64^{3x-1} = \left(\frac{1}{16}\right)^{2x+4}$

c. $2 \log(3 - x) = \log 4 + \log(6 - x)$

d. $4^{2x-3} = 3^{x+2}$