# Algebra 2 8.4 Properties of Logarithms Name:

**Properties of Logarithms**

**Simplifying Logarithms**

Write each logarithmic expression as a single logarithm.

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Examples:

**Expanding Logarithms**

Expand each logarithm.

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Examples:

**Examples**

Use the properties of logarithms to evaluate each expression.

**Application: Sound Intensity (decibels)**

 *L* = apparent loudness

 *I* = intensity of sound

Find the loudness of a chainsaw with an intensity of sound =

 db

Another chainsaw has an intensity of sound =

How much louder/quieter is this chainsaw?