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**Logarithms Laws**

**Recall:**

Product Law:

Quotient Law:

Power Law:

**Activity:**

Prove the following **logarithm laws** then provide an example of its application:

**Product Law Quotient Law Power Law**

Let and Let and Let

**Example 1**

Simplify each logarithmic expression.

a) b) c)

**Example 2**

Determine two different transformations that could be applied to the parent function to create a graph for the function .

**Example 3**

Write the following as sums and differences of logarithmic expressions where each term is in the form .

a) b)