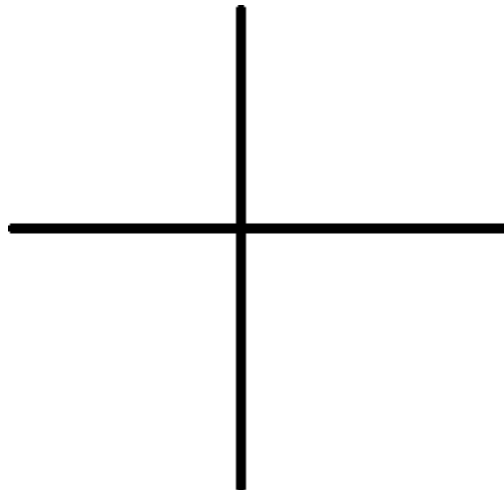


Section 1.7: Logarithmic Models

A logarithmic model is written in standard form:

Translations of logarithmic models from exponential equivalent:

Part I: The graph of a logarithmic model:



Part II: Complete the table below.

Exponential Notation	Logarithmic Notation
$5^3 = 125$	
	$\log_3(81) = 4$
	$\log(100) = 2$
$6^{-2} = \frac{1}{36}$	
$10^0 = 1$	

Part III: Calculator Evaluation of Logarithms

1. $\log(27)$

2. $\log(1723)$

3. $\ln(7.6)$

4. $\ln(172)$

Part IV: Logarithmic Examples (Application)

1. The approximate percent (P) of adult height for males is modeled by:

$$P = 16\log(x - 12) + 84$$

where x represents years of age for males ($13 < x < 18$).

What is the percent of adult height of a 14 year old male according to the model?

What is the percent of adult height for a 17 year old male according to the model?

If a 17 year old male is 6 feet tall, what will be the final adult height of the male?