

2.9 Logarithmic Expressions

AP Precalculus

Name: _____

CA #1

Directions: Rewrite the following logarithms as exponents.

1) $\log_4 8 = \frac{3}{2}$

2) $\log_{1000} \frac{1}{1000} = -3$

Directions: Rewrite the following exponents as logarithms.

3) $25^{\frac{3}{2}} = 125$

4) $6^3 = 216$

Directions: WITHOUT using a CALCULATOR, find the value of logarithm.

5) $\log_3 \frac{1}{81}$

6) $\log_2 128$

Directions: Use a CALCULATOR to find the value of logarithm. Round to three decimal places.

7) $\log_8 6200$

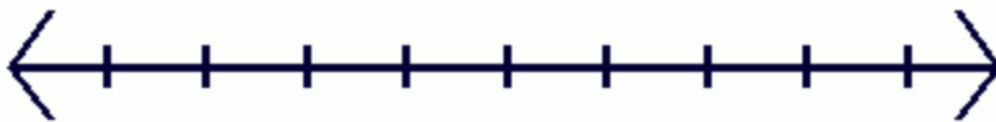
8) $\log 438$

Directions: For the given data construct a plot using a LOGARITHMIC scale using the given bases. Be sure to label your axis and show your math..

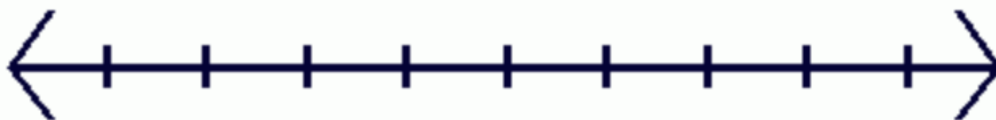
9)

Item	Weight in Milligrams
Pencil	5 mg
Eraser	45 mg
Calculator	6000 mg
Backpack	375,000 mg

Base 5



Base 10



Answers to 1.1 CA #1

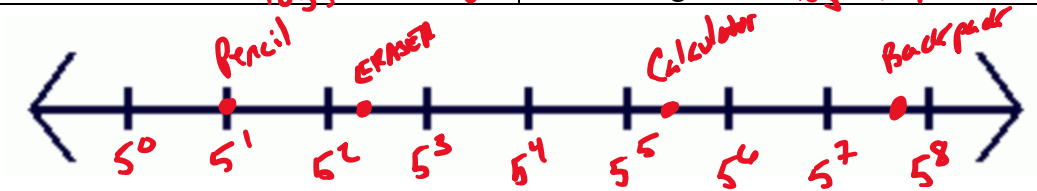
1. $4^{\frac{3}{2}} = 8$	2. $10^{-3} = \frac{1}{1000}$	3. $\log_{25} 125 = \frac{3}{2}$	4. $\log_6 216 = 3$	5. -4
6. 7	7. 4.199	8. 2.641	9. SEE BELOW	

9.

Item	Weight in Milligrams
Pencil	5 mg
Eraser	45 mg
Calculator	6000 mg
Backpack	375,000 mg

$\log_5 5 = 1$
 $\log_5 45 = 2.365$
 $\log_5 6000 = 5.405$
 $\log_5 375,000 = 7.975$
 $\log_5 = 0.699$
 $\log_5 45 = 1.653$
 $\log_5 6000 = 3.778$
 $\log_5 375,000 = 5.574$

Base 5



Base 10

