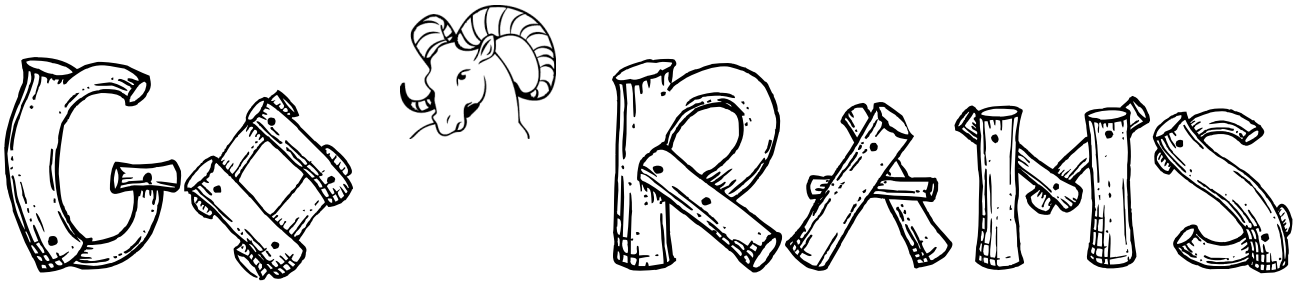
Logarithms+ Worksheet Name:_____



(and how is the title related to the subject matter?)

Terminology Page 534:

Common logarithms: When the base is 10. Just omit the base.

$$\log_{10}(x) \quad = \quad \log(x)$$

Natural logarithm Page 550:

$$\boldsymbol{e = 2.718281828459} \ldots$$

$$\log_e(x) \quad = \quad \ln(x)$$

Theorem 12-7

$$\log_b M = \frac{\log_a M}{\log_a b}$$

Examples:

Logarithms Worksheet

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Solve the questions in Table I, and find the correspondence between a letter and a number. Use this to reveal the important information hidden above !

_	_	_		_	_	_	_	W	_	_	_		_	_		b	a	h	a	r	a	v	.	o	r	g:
4	1	3		0	7	2	2		9	5	13		4	9													

_	_	_	_	_	N	_		_	N	_		_	_	_	_	_	_	_	_	_
2	12	11	13	6		4		7		14		2	9	1	15	8	1	4	9	10

(no capitals)

Table I

E $2.5 + \log_{100}(10)$	P $\log_{12}(1)$
S $\log_{10}(20) + \log_{10}(5)$	H $\log_{7}(7)$
T $\log_{5}(x) = -2$ ➔ L is: $100 \cdot x$	A $3^{x-4} + 5 = 32$
R $2 + \text{round}(\ \ln(19)\ )$	D $\text{round}(\ 10 \cdot \log(19)\ )$

Logarithms Worksheet
Table I (cont.)

U $\text{floor}(\ 10 \cdot \ \ln(\pi)\ )$	E $2^{(x-1)} = 32$
A $\log_3(5x - 13) = 3$	D $\log_3(x+1) - 5 = -5$ ➔ D is: $x + 14$
O $\log\left(\sqrt[3]{x}\right) = 2$ ➔ H is: $\frac{x}{2.5 \cdot 10^5} + 5$	T $8^{2\log_8 x + \log_8 x} = 27$ ➔ T is: $4 \cdot x$
A $\log 5 + \log x = 1$ ➔ A is: $5 \cdot x$	C $\log\left(\frac{x^5 y^2}{z^3}\right)$ 15. $5 \cdot \log(x) + 2 \cdot \log(y) - 3 \cdot \log(z)$ 14. $5 \cdot \log(x) \cdot 2 \cdot \log(y) \div 3 \cdot \log(z)$ 13. $\frac{10}{3} \cdot \{\log(x) + \log(y) - \log(z)\}$