

Online Math Help

Q 1. If you are allowed use calculator to find logarithms to base 10, find number of digits in 26^{26} and 516^{516}

[Problem – Pre Calc]

Given problem (a)	Log of LHS in (a) (b)	Characteristic found in column (b)	Required no. of digits = Characteristic + 1
$10^2 = 100$	$2\log(10) = 2.0$	2	$2+1=3$
$10^3 = 1000$	$3\log(10) = 3.0$	3	$3+1=4$
$10^4 = 10000$	$4\log(10) = 4.0$	4	$4+1=5$
2^2	$2\log(2) = 0.6021$	0	$0+1=1$
26^{26}	$26\log(26) = 36.7893$	36	$36+1=37$
516^{516}	$516\log(516) = 1399.7272$	1399	$1399+1=1400$