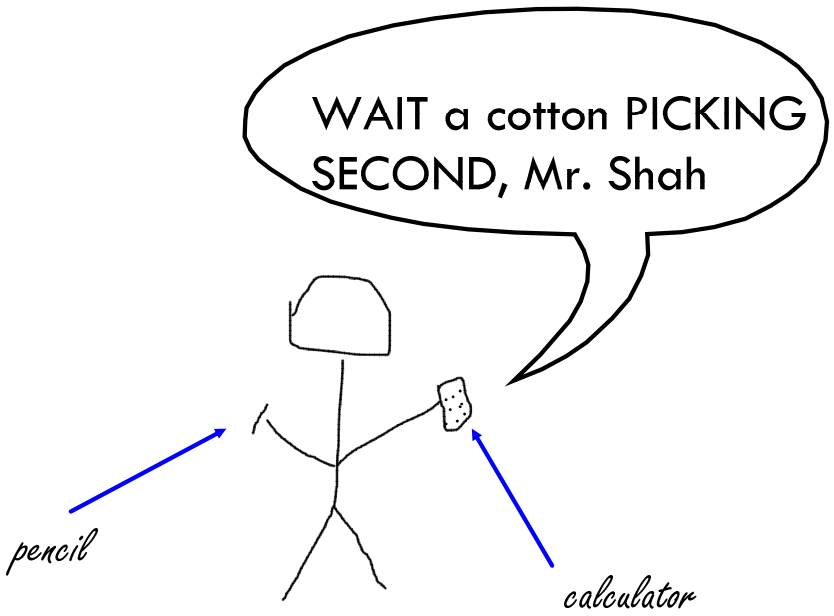
Homework Answers:

36. log(1)=1
38. ln 9
40. $\log(\sqrt{a}/2)$
42. $\log_a(x^{2/5}/y^{1/3})$
44. $\ln(2x^4/y^3)$
46. $\log(x^2+2x+4)$
48. $1/2-\log_a x$
50. $\ln[(x-3)^{2/3}(x+y)]$

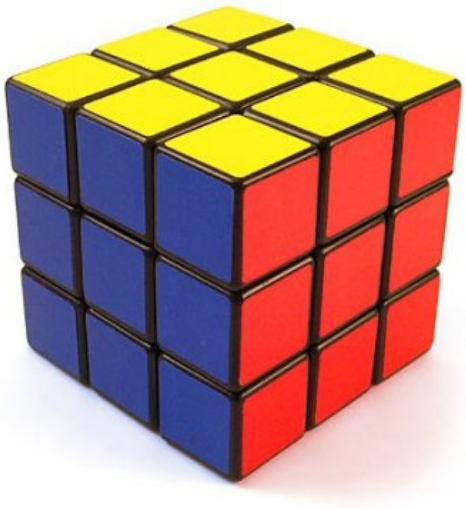
52. $\ln(\frac{x^{72}y^{80}}{2^{120}z^{150}})$

HW QUESTIONS - we'll answer them at the end!

Solving Exponential and Logarithmic Equations!



ISN'T THAT WHAT WE'VE BEEN DOING?



is better

EXPONENTIAL EQUATIONS

[variables in the exponent]

$2342^{17}=2342^{x}$

solve algebraically:

$2^{3x-7}=2^5$

Check yo'self!

$5^{5x+1}=125$

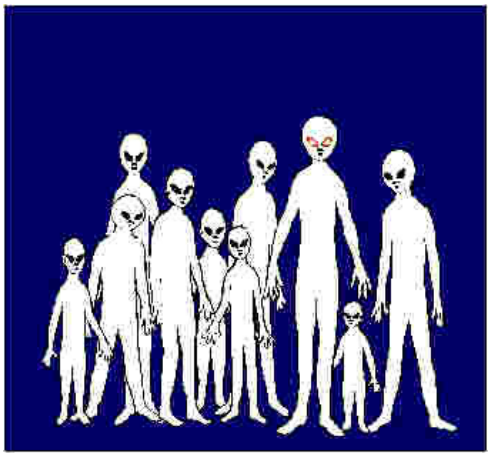
Solve algebraically:

$5^{224x}=20$

Check yo'self!

Solve algebraically:

$e^{0.08s}=2315$



DO LATER!

We alien family are hungry. We will eat you if you cannot solve this math puzzle:

$5^{2x-1}-2^{5x-1}=0$

LOGARITHMIC EQUATIONS

[variables in the log function]

Solve:

$\log x + \log (x+3) = 1$

CAVEAT of GREAT IMPORTANCE:

you **MUST** plug in your solutions back into the original equation when solving logarithmic questions.

RECALL that you can never have the log of 0 or a negative number!

Solve GRAPHICALLY:

$\log x + \log (x+3) = 1$

Solve algebraically *and* graphically:

$\log_3(2x-1)-\log_3(x-4)=2$

Solve algebraically and graphically:

$\ln(4x+6) - \ln(x+5) = \ln(x)$

glub. i challenge your puny earth minds to solve this really hard equation. glorb.

$e^{0.05x} - 7.3 = 2.08x + 6.2$

REFRESHER!

1. Describe what the following graph looks like: $y=2^{-x+1}+5$. (Also, is it growth or decay?)

2. What is the domain of $\log_5(x)$? What is the range?

3. What is the inverse function of $y=2^{-x}$?

4. T or F: log M - log N = (log M) / (log N)

5. Simplify: $\log 10^{-t}$

6. Simplify: $\log_b \sqrt{b^3}$

HW: Section 4.4#65-75 odd
Section 4.5#1-21odd, 27-47odd, 51

CHECK YOUR ANSWERS IN THE BACK OF THE BOOK.