

Solving for x : The log and exponential edition

x in exponent $\rightarrow$ take logs

$$2^{x+1} = 50$$

$$\log(2^{x+1}) = \log 50$$

$$(x+1) \frac{\log 2}{\log 2} = \frac{\log 50}{\log 2}$$

$$x+1 = \frac{\log 50}{\log 2} - 1 \approx 4.644$$

x in a log $\rightarrow$ exponentiate or rewrite by def'n

$$\log(2x-3) = 1.8$$

$$2x-3 = 10^{1.8}$$

$$2x = \frac{10^{1.8} + 3}{2}$$

$$x \approx 33.05$$

x in base $\rightarrow$ reciprocal root

$$x^{5.4} = 100$$

$$100 x^{(1 \div 5.4)} =$$

$$(x^{5.4})^{1/5.4} = 100^{1/5.4}$$

$$100 x^{5.4} =$$

$$x^{\frac{5.4}{5.4}} =$$

$$100 \wedge (1 \div 5.4) =$$

$$x = 2.346 \dots$$