

1.2.4: Further Mysteries to Ponder

Date: _____

1. Using only a regular calculator, use trial and error to determine the solution to the equation $1.05^x = 1276$ (to 3 decimal places).
2. Explain why $5^x = -2$ has **no** solution, but $2^x - 5 = -2$ has a solution. Provide graphical and algebraic support.
3. Is it possible to create an exponential equation that has more than one solution? Provide graphical and algebraic support.
4. Compare and contrast the solutions in group A with those in group B.

Group A	Group B
$2^{-x} = 8$	$2^x = 8$
$2^{-x} = 1$	$2^x = 1$
$2^{-x} = \frac{1}{4}$	$2^x = \frac{1}{4}$
$2^{-x} = 16$	$2^x = 16$