

6.REV.3 – End of Logarithms Review

Begin by completing the problem in cell #1. Search for your answer in the remaining cells. Put #2 in the problem blank: # _____. Work that question and proceed in this manner until you complete the circuit.

<p>Answer: 3</p> <p># 1 Solve: $2.5e^{0.03t} = 3.7$ <i>Round to 3 decimal places.</i></p>	<p>Answer: 11.9</p> <p># _____ Find the doubling time for an investment that is growing continuously by 4.6% per year.</p>
<p>Answer: 0.9618</p> <p># _____ $P = 320(0.949)^t$ Convert to the form $P = ae^{kt}$. <i>Round k to 4 decimal places.</i></p> <p><i>The value of k will be the answer to search for.</i></p>	<p>Answer: -2</p> <p># _____ Solve: $\log_8 x + \log_8(x + 3) = \log_8 18$</p>
<p>Answer: 0.0320</p> <p># _____ $P = 8.4e^{0.17t}$ Convert to the form $P = ab^t$. <i>Round b to 4 decimal places.</i></p> <p><i>The value of b will be the answer to search for.</i></p>	<p>Answer: 26.3</p> <p># _____ Solve: $5(1.014)^{3x} = 12$ <i>Round to 3 decimal places.</i></p>
<p>Answer: 15.1</p> <p># _____ In 2000, the population of Africa was 807 million and by 2011 it had grown to 1052 million. How many years does it take for the population to double its population in 2000? <i>Round b to 3 decimal places.</i></p>	<p>Answer: 1.99% & 1.97%</p> <p># _____ The price of a certain item is represented by the function $P = 7.50(1.058)^t$. What is the non-continuous rate? What is the continuous rate? <i>Round to 3 decimal places.</i></p>

<p>Answer: -56</p> <p># _____ The area of forest is reduced each year because of urban encroachment. If the rate of the area decreases at 2.6% each year, what is the half-life of the forest?</p>	<p>Answer: 29.2</p> <p># _____ Evaluate: $\log_4\left(\frac{1}{16}\right) = x$</p>
<p>Answer: 8.981% & 8.6%</p> <p># _____ $P = 27e^{-0.039t}$</p> <p>Convert to the form $P = ab^t$.</p> <p>Round b to 4 decimal places.</p> <p><i>The value of b will be the answer to search for.</i></p>	<p>Answer: 1.1853</p> <p># _____ $Q = 14e^{0.086t}$</p> <p>What is the non-continuous decay rate? <i>Round to 3 decimal places.</i></p> <p>What is the continuous decay rate?</p>
<p>Answer: 20.990</p> <p># _____ Solve: $100^{2x+3} = 1000$</p>	<p>Answer: -0.0523</p> <p># _____ Solve: $-4 \log_{11}(9 - 2x) = -8$</p>
<p>Answer: 23.1</p> <p># _____ The world population was 2.5 billion in 1950 and 5.5 billion in 1990. Round b to 4 decimal places.</p> <p>What is the non-continuous rate?</p> <p>What is the continuous rate?</p>	<p>Answer: 13.068</p> <p># _____ $P = 2.6(1.0325)^t$</p> <p>Convert to the form $P = ae^{kt}$.</p> <p>Round k to 4 decimal places.</p> <p><i>The value of k will be the answer to search for.</i></p>
<p>Answer: 5.8% & 5.64%</p> <p># _____ If an investment has a 6% return, compounded annually, in how many years will it double?</p>	<p>Answer: -0.75</p> <p># _____ If a chemical compound decays at a continuous rate of 3% per year, what is its half-life?</p>