1. How is solving an exponential equation like solving a multiplication equation?

2. Describe the relationship between the number e and the expression $\left(1+\frac{1}{n}\right)^n$.

3. Explain how natural logarithms are different from and similar to common logarithms.

4. Write a real-life problem that could be solved using the formula for interest compounded continuously, $A = Pe^{rt}$. Then solve it.

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You solve an exponential equation by taking the logarithm of both sides. Logarithm equation is the inverse operation of exponential equation. You solve a multiplication equation by dividing both sides.

- [1] Division is the inverse operation of multiplication.
- [2] As n gets larger, the value of the expression gets closer and closer to the value of e.

Natural logarithms are the inverse of $y = e^x$; common logarithms are the inverse of $y = 10^x$; the product property, quotient property and the power property are true for both natural logarithms and common

[3] logarithms.

Answers may vary. Sample: How many years will it take to double an investment of any amount at 6% [4] interest compounded continuously? 11.6 years