

Derive an exponential equation for a growth or decay situation.

1. A financial account starts with \$1000 and grows at 10% per year. Derive the exponential equation that models the amount in the account in any year, if the first year is when $t = 1$.
2. A financial account starts with \$1000 and grows at 8% per year. Derive the exponential equation that models the amount in the account in any year, if the first year is when $t = 1$.
3. A financial account starts with \$1000 and grows at 12% per year. Derive the exponential equation that models the amount in the account in any year, if the first year is when $t = 1$.
4. A financial account starts with \$1000 and grows at 6% per year. Derive the exponential equation that models the amount in the account in any year, if the first year is when $t = 1$.
5. A financial account starts with \$1000 and grows at 15% per year. Derive the exponential equation that models the amount in the account in any year, if the first year is when $t = 1$.
6. A financial account starts with \$1000 and grows at 3% per year. Derive the exponential equation that models the amount in the account in any year, if the first year is when $t = 1$.
7. An automobile has a value of \$20,000 and depreciates at 9% per year. Derive the exponential equation that models the value of the automobile in any year, if the first year is when $t = 1$.
8. An automobile has a value of \$20,000 and depreciates at 11% per year. Derive the exponential equation that models the value of the automobile in any year, if the first year is when $t = 1$.
9. An automobile has a value of \$20,000 and depreciates at 6% per year. Derive the exponential equation that models the value of the automobile in any year, if the first year is when $t = 1$.
10. An automobile has a value of \$20,000 and depreciates at 12% per year. Derive the exponential equation that models the value of the automobile in any year, if the first year is when $t = 1$.
11. An automobile has a value of \$20,000 and depreciates at 8% per year. Derive the exponential equation that models the value of the automobile in any year, if the first year is when $t = 1$.
12. An automobile has a value of \$20,000 and depreciates at 15% per year. Derive the exponential equation that models the value of the automobile in any year, if the first year is when $t = 1$.