

ALGEBRA 2 FORMULAS
APPLICATIONS OF EXPONENTIAL & LOGARITHMIC FUNCTIONS

Compound Interest

$$A = P \left(1 + \frac{r}{n} \right)^{nt}$$

Compounded continuously

$$A = Pe^{rt}$$

A = final amount

P = principal

r = interest rate

n = number of times compounded in a year

t = time

Exponential Growth/Decay (Business/Human Pop.)

$$N = N_0 (1 \pm r)^t$$

N = final amount

N_0 = initial amount

r = growth/decay rate

t = time

Continuous Growth (Nature)

$$q = q_0 e^{kt}$$

q = final amount

q_0 = initial amount

k = constant of growth/decay

t = time

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