

Section 6.8 Exponential Growth and Decay Models

Objectives: Find equations of populations that obey the law of uninhibited growth; find equations of populations that obey the law of decay.

Continuous Growth or Decay Formula

$$A(t) = A_0 e^{kt} \quad \text{where } A_0 = \text{original amount}$$

$+k = \text{growth rate}$
 $-k = \text{rate of decay}$
 $t = \text{time}$

Radioactive Decay

All radioactive substances have a specific **half-life**, which is the time required for half of the radioactive substance to decay.

Work #1 – 6