

# Decay

$$\wedge \quad A = P(1-r)^t$$

You bought a car today for \$15,000. It depreciates at a rate of 10% a year. How much will it be worth in 7 years? \$11,174.45

\$15,000 at 16.5% for 4 years.

$$A = 15000 \left(1 + \frac{0.165}{1}\right)^{(1 \times 4)}$$

$\wedge (1 \times 4)$

$$A = P \left(1 + \frac{r}{n}\right)^{nt} \quad \$27,630$$

Annually  $\rightarrow$  once a year  $n=1$

Semiannually  $\rightarrow$  twice a year  $n=2$

Quarterly  $\rightarrow$  4 times a year  $n=4$

Monthly  $\rightarrow$  12 times a year  $n=12$

Daily  $\rightarrow$  365 times a year  $n=365$