

# FINANCE MATH

1. What type of interest is mentioned?

Compound Interest

Simple Interest  
(stop and figure)

$$I = Prt$$

$$A = P + I$$

$$A = P + Prt$$

$$A = P(1 + rt)$$

2. How many deposits or payments?

Multiple or Periodic

Single  
(stop and figure)

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

3. When is the "big money" needed?

**NOW** – You make a large purchase in the present and pay it off over time.

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

**LATER** – You will be saving up to have a large amount in the future.

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

# FINANCE MATH

**A** final **A**mount (principal + interest)  
**P** **P**rinciple (initial or beginning amount)  
**r** interest **r**ate (in decimal form)  
**n** # of compounding periods per year  
**t** time (in years)  
**I** Interest  
**Y** effective annual **Y**ield  
**pmt** periodic payment

**ADB** Average Daily Balance  
**Effective Rate** – sometimes called the effective annual yield – is the simple interest rate that produces the same amount of money in an account at the end of one year as when the account is subjected to compound interest at a stated rate.

$$EY = \left(1 + \frac{r}{n}\right)^n - 1$$

Be sure to convert your decimal calculator result to a percent.

**Rule of 72**

$$\frac{72}{EY \%} = \text{years to double}$$

**Credit Card Average Daily Balance**

$$ADB = \frac{\text{sum of the daily balances}}{\text{number of days in the billing cycle}}$$

**Credit Card Interest** (This is the monthly finance charge on the Average Daily Balance):

$$I = ADB \times \text{onthly rate} \times 1(\text{month})$$

**or**

$$I = ADB \times \frac{APR}{12} \times 1(\text{month})$$