
MAT 110 Module 4 Formula Sheet

I = simple annual interest
P = principal or present value
r = annual interest rate

A = future value at end of t years
n = # of times compounded per year
t = time in years

Simple Interest:

Simple Interest: $I = Prt$

Future Value for Simple Interest

Future Value: $A = P(1 + rt)$

Compound Interest

Future value:
$$A = P \left(1 + \frac{r}{m} \right)^{mt}$$

m = 1 (compounded annually or APR)
m = 4 (compounded quarterly)
m = 12 (compounded monthly)
m = 365 (compounded daily)

Unpaid Balance Method: interest is charged on the unpaid balance at the end of the month using the simple interest formula:

Finance Charge: $I = Prt$

Note: P = previous month's balance + finance charge + purchases made - returns - payments
r = annual interest rate
t = 1/12

Average Daily Balance Method: interest is charged on the average daily balance using the simple interest formula:

Finance Charge: $I = Prt$

Note: P = the average of the daily balances
r = annual interest rate
t = number of days/365