

Formula Sheet for MATH 179

Compound Interest

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

Annuity / Amortized Loans

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

Monthly + lump sum

i.e. financing a car

$$\frac{n\left[P_1\left(\left(1 + \frac{r}{n}\right)^{nt} - 1\right)\right]}{r} = P_2\left(1 + \frac{r}{n}\right)^{nt}$$

Monthly + Monthly

i.e. planning for retirement

$$P_1\left(\left(1 + \frac{r}{n}\right)^{nt} - 1\right) = P_2\left(\left(1 + \frac{r}{n}\right)^{nt} - 1\right)$$