

## Some Useful Formulas

$$S = P(1 + r)^n$$

$$S = Pe^{rt}$$

$$P = S(1 + r)^{-n}$$

$$P = Se^{-rt}$$

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

$$r_e = e^r - 1$$

$$\sum_{i=1}^{\infty} a \cdot r^{i-1} = \frac{a}{1 - r}$$

$$\sum_{i=1}^k a \cdot r^{i-1} = \frac{a(1 - r^k)}{1 - r}$$

$$A = Ra_{\overline{n}|r} = R \cdot \left[ \frac{1 - (1 + r)^{-n}}{r} \right]$$

$$R = \frac{A}{a_{\overline{n}|r}} = A \cdot \left[ \frac{r}{1 - (1 + r)^{-n}} \right]$$

$$S = Rs_{\overline{n}|r} = R \cdot \left[ \frac{(1 + r)^n - 1}{r} \right]$$

$$R = \frac{S}{s_{\overline{n}|r}} = S \cdot \left[ \frac{r}{(1 + r)^n - 1} \right]$$