

Future value with multiple cash flows:

- 6.2** Your grandfather has agreed to deposit a certain amount of money each year into an account paying 7.25 percent annually to help you go to graduate school. Starting next year, and for the following four years, he plans to deposit \$2,250, \$8,150, \$7,675, \$6,125, and \$12,345 into the account. How much will you have at the end of the five years?

Present value with multiple cash flows:

KronkaInc., is expecting cash flows of \$13,000, \$11,500, \$12,750, and \$9,635 over the next four years. What is the present value of these cash flows if the appropriate discount rate is 8 percent?

Future value of an ordinary annuity:
$$FVA_n = PMT \times \frac{(1+i)^n - 1}{i}$$

Robert Hobbes plans to invest \$25,000 a year at the end of each year for the next seven years in an investment that will pay him a rate of return of 11.4 percent. How much money will Robert will have at the end of seven years?

Present value of an annuity:

$$\begin{aligned}PVA_0 &= CF \times PVFA \\&= CF \times \left[\frac{1 - PVFA}{i} \right] \\&= CF \times \left[\frac{1 - \frac{1}{(1+i)^n}}{i} \right] \quad (6.1)\end{aligned}$$

ANA Corp. is expecting annual payments of \$34,225 for the next seven years from a customer.

What is the present value of this annuity if the discount rate is 8.5 percent?

Present Value of a perpetuity

$$\begin{aligned}PVP_0 &= CF \times \text{Present value factor for an annuity} \\&= CF \times \left[\frac{1 - \frac{1}{(1+i)^\infty}}{i} \right] = CF \times \frac{(1-0)}{i} \\&= \frac{CF}{i} \quad (6.3)\end{aligned}$$

Your grandfather is retiring at the end of next year. He would like to ensure that his heirs receive payments of \$10,000 a year forever, starting when he retires. If he can earn 6.5 percent annually, how much does your grandfather need to invest to produce the desired cash flow?