

S-2.1 Redo problems 3.15, 3.43, and 3.50 using Excel. Please submit the answers to all three problems in one Excel file.

S-2.2 You deposit \$5,000 in a savings account that earns 6% simple interest per year. How many years will it take to double your balance? If, instead, you deposit the \$5,000 in another savings account that earns 5% interest compounded yearly, how many years will it take to double your balance?

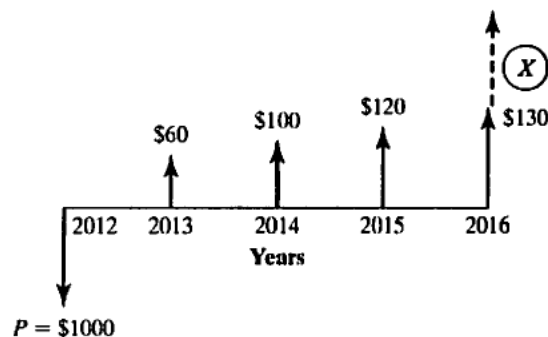
S-2.3 You are about to borrow \$8,000 from a bank at an interest rate of 8% compounded annually. You are required to make five equal annual repayments in the amount of \$2,004 per year, with the first repayment occurring at the end of year one. For each year, show the interest payment and principal payment.

S-2.4 Suppose that, to purchase a car, you are obtaining a personal loan from your uncle in the amount of \$75,000 (now) to be repaid in three years. If your uncle could earn 9% interest (compounded annually) on his money invested in various sources, what minimum lump-sum payment three years from now would make your uncle happy economically?

S-2.5 If you want to withdraw \$20,000 at the end of two years and \$55,000 at the end of four years, how much should you deposit now into an account that pays 12% interest compounded annually? Draw a cash flow diagram.

S-2.6 A local newspaper headline blared, "Bo Smith Signs for \$30 Million." The article revealed that Bo Smith, the former record-breaking running back from Football University, signed a \$30 million package with the Nebraska Lions. The terms of the contract were \$3 million immediately, \$2.4 million per year for the first five years (with the first payment after one year), and \$3 million per year for the next five years (with the first payment at the end of year 6). If the interest rate is 8% compounded annually, what is Bo's contract worth at the time of contract signing?

S-2.7 The accompanying diagram shows the anticipated cash dividends for Delta Electronics over the next four years. John is interested in buying some shares of this stock for a total of \$1000 and will hold them for four years. If John's interest rate is known to be 12% compounded annually, what would be the desired (minimum) total selling price for the set of shares at the end of the fourth year?

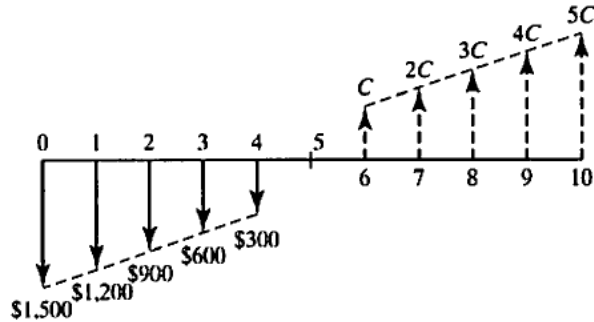


S-2.8 You have borrowed \$28,000 at an interest rate of 12% compounded annually. Equal payments will be made over a four-year period, with each payment made at the end of the corresponding year. What is the amount of the annual payment? What is the interest payment for the second year?

S-2.9 A company is considering replacing an old piece of industrial equipment to reduce operating and maintenance cost. A new equipment is quoted at \$215,000. After 12 years, the machine would have no

value, but it would save as much as \$35,000 in operating and maintenance cost. If the firm's interest rate is 9%, is it worth buying the new equipment?

S-2.10 Consider the cash flow series given in the accompanying table. What value of C makes the deposit series equivalent to the withdrawal series at an interest rate of 6% compounded annually?



S-2.11. Suppose that an oil well is expected to produce 12,000,000 barrels of oil during its first production year. However, its subsequent production (yield) is expected to decrease by 9% over the previous year's production. The oil well has a proven reserve of 10,500,000 barrels.

(a) Suppose that the price of oil is expected to be \$120 per barrel for the next six years. What would be the present worth of the anticipated revenue stream at an interest rate of 10% compounded annually over the next six years?

(b) Suppose that the price of oil is expected to start at \$120 per barrel during the first year, but to increase at the rate of 3% over the previous year's price. What would be the present worth of the anticipated revenue stream at an interest rate of 10% compounded annually over the next seven years?