

Solutions

Handout #4

Alpha Construction Company has just purchased several major pieces of road-building equipment. Since the purchase price is so large, the equipment company is giving Alpha an option of choosing one of four different payment plans:

1. \$600,000 immediately in cash.

$$\text{\$600,000}$$

2. \$200,000 down payment now; \$65,000 per year for 12 years, beginning at the end of the current year.

$$\text{\$200,000} + \text{\$65,000}(6.19437) = \text{\$602,634.05}$$

3. \$200,000 down payment now; \$25,000 per year for 3 years beginning at the end of the current year; \$75,000 per year for 11 years beginning at the end of the fourth year after the purchase.

$$\text{\$200,000} + \text{\$25,000}(2.40183) + \text{\$75,000}(5.93770)(0.71178) = \text{\$577,020.96}$$

or

$$\text{\$200,000} + \text{\$25,000}(2.40183) + \text{\$75,000}(6.62817 - 2.40183) = \text{\$577,021.25}$$

4. \$80,000 now and at the beginning of each of the next 13 years.

$$\text{\$80,000}(7.42355) = \text{\$593,884}$$

Required: You have been asked by the Alpha Construction Company to decide which payment plan to select. Find the present value of each option and advise Alpha. The expected interest rate during the future periods stated above is 12%.

Plan 3 has the lowest present value and is therefore the least expensive payment plan.