Demonstration Problems for Section 5

Demonstration Problem 5-1

Net Present Value/Present Value Index

The management team at Savage Corporation is evaluating two alternative capital investment opportunities. The first alternative, modernizing the company's current machinery, costs $45,000. Management estimates the modernization project will reduce annual net cash outflows by $12,500 per year for the next five years. The second alternative, purchasing a new machine, costs $56,500. The new machine is expected to have a five-year useful life and a $4,000 salvage value. Management estimates the new machine will generate cash inflows of $15,000 per year. Savage's cost of capital is 10%.

Required

a. Determine the present value of the cash flow savings expected from the modernization program.
b. Determine the net present value of the modernization project.
c. Determine the net present value of investing in the new machine.
d. Use a present value index to determine which investment alternative will yield the higher rate of return.

Demonstration Problem 5-2

Payback/Unadjusted Rate of Return

EZ Rentals can purchase a van that costs $24,000. The van has an expected useful life of 5 years and no salvage value. EZ expects cash revenue from leasing the van to be $12,000 per year. Alternatively, EZ can purchase a car that costs $16,000. EZ expects cash revenue from leasing the car to be $10,000 per year over a 3-year useful life. Ignore income taxes.

Required

a. Determine the payback period for the van.
b. Determine the payback period for the car.
c. Indicate which vehicle is the better alternative if payback is used as the sole investment criteria.
d. Describe the possible shortcomings of using payback as the investment criteria.
e. Determine the unadjusted rate of return for both alternatives.