

PROBLEM SET A

Problem 25-1A

Computation of payback period, accounting rate of return, and net present value

P1 P2 P3

Factor Company is planning to add a new product to its line. To manufacture this product, the company needs to buy a new machine at a \$480,000 cost with an expected four-year life and a \$20,000 salvage value. All sales are for cash, and all costs are out-of-pocket, except for depreciation on the new machine. Additional information includes the following.

Expected annual sales of new product	\$1,840,000
Expected annual costs of new product	
Direct materials	480,000
Direct labor	672,000
Overhead (excluding straight-line depreciation on new machine)	336,000
Selling and administrative expenses	160,000
Income taxes	30%

Required

1. Compute straight-line depreciation for each year of this new machine's life. (Round depreciation amounts to the nearest dollar.)
2. Determine expected net income and net cash flow for each year of this machine's life. (Round answers to the nearest dollar.)
3. Compute this machine's payback period, assuming that cash flows occur evenly throughout each year. (Round the payback period to two decimals.)
4. Compute this machine's accounting rate of return, assuming that income is earned evenly throughout each year. (Round the percentage return to two decimals.)
5. Compute the net present value for this machine using a discount rate of 7% and assuming that cash flows occur at each year-end. (*Hint:* Salvage value is a cash inflow at the end of the asset's life. Round the net present value to the nearest dollar.)

Check (4) 21.56%
(5) \$107,356