

PRACTICE PROBLEMS AND SOLUTIONSCash flow
(LO12-2)Depreciation and
net present value
(LO12-4)

1. Systems Software has earnings before depreciation and taxes of \$180,000, depreciation of \$60,000, and a tax rate of 35 percent. Compute its cash flow.
2. Archer Chemical Corp. is considering purchasing new equipment that falls under the three-year MACRS category. The cost is \$200,000. Earnings before depreciation and taxes for the next four years will be:

Year 1	\$ 90,000
Year 2	105,000
Year 3	85,000
Year 4	35,000

The firm is in a 30 percent tax bracket and has a 12 percent cost of capital. Should it purchase the new equipment?

Solutions

1.	Earnings before depreciation and taxes	\$180,000
	Depreciation	60,000
	Earnings before taxes	\$120,000
	Taxes @ 35 percent	42,000
	Earnings after taxes	\$ 78,000
	Depreciation	60,000
	Cash flow	\$138,000

2. First determine annual depreciation based on the \$200,000 purchase price. Use Table 12-12 for the annual depreciation rate for three-year MACRS depreciation.

Year	Depreciation Base	Percentage Depreciation (Table 12-12)	Annual Depreciation
1	\$200,000	0.333	\$66,600
2	200,000	0.445	89,000
3	200,000	0.148	29,600
4	200,000	0.074	14,800

Then determine the annual cash flow for each year.

	Year 1	Year 2	Year 3	Year 4
Earnings before depreciation and taxes	\$90,000	\$105,000	\$85,000	\$35,000
Depreciation	66,600	89,000	29,600	14,800
Earnings before taxes	\$23,400	\$16,000	\$55,400	\$20,200
Taxes @ 30%	7,020	4,800	16,620	6,060
Earnings after taxes	\$16,380	\$11,200	\$38,780	\$14,140
Depreciation	66,600	89,000	29,600	14,800
Cash flow	\$82,980	\$100,200	\$68,380	\$28,940