(11-1)  
Investment Outlay  
Talbot Industries is considering an expansion project. The necessary equipment could be purchased for $9 million, and the project would also require an initial $3 million investment in net operating working capital. The company's tax rate is 40%.  
a. What is the initial investment outlay?  
Equipment Purchase = $9 million  
Investment in net working capital =$3 million  
Initial investment outlay =$12 million

b. The company spent and expensed $50,000 on research related to the project last year. Would this change your answer? Explain.  
No. The amount spent on research last year is a sunk cost.

c. The company plans to house the project in a building it owns but is not now using. The building could be sold for $1 million after taxes and real estate commissions. How would this affect your answer?  
We need to include the opportunity cost of using the building in the initial investment outlay. Thus, initial investment outlay will increase by $1 million to $13 million.

(11-2)  
Operating Cash Flow  
Cairn Communications is trying to estimate the first-year operating cash flow  
(at t = 1) for a proposed project. The financial stuff has collected the following information:  
Projected sales $18 million  
Operating cost (not including depreciation) $9 million  
Depreciation $4 million  
Interest expense $3 million  
Tax @40%

The company faces 40% tax rate. What is the project’s operating flow for the first year (t =1)?

(11-3)  
Net Salvage Value  
Allen Air Lines is now in the terminal year of a project. The equipment originally cost $20 millions, of which 80% has been depreciated. Carter can sell the used equipment today to another airline for $5 million, and its tax rate is 40%. What is the equipment's after-tax net salvage value?  
Selling price of equipment = $5 million  
Book value of Equipment = Original cost \* (1-accumulated depreciation)  
= $20 million \*(1-80%)=$4 million  
Gain on sale of equipment = Selling price - Book value  
= $5 million - $4 million = $1 million  
Tax on gain @40% =$0.4 million  
Net salvage value = Selling price - Tax  
=$5 million - $0.4 million = $4.6 million

(11-6)  
New-Project Analysis  
The Campbell Company is evaluating the proposed acquisition of a new milling machine. The machine's base price is $108,000, and it would cost another $12,500 to modify it for special use. The machine falls into the MACRS 3-year class, and it would be sold after 3 years for $65,000. The machine would require an increase in net working capital (inventory) of $5,500. The milling machine would have no effect on revenues, but it is expected to save the firm $44,000 per year in before-tax operating cost, mainly labor. Campbell's marginal tax rate is  
35%.  
a. What is the net cost of the machine for capital budgeting purposes?  
(That is, what is the year-0 net cash flow?)

Base price of machine = $108,000  
Modification cost =$12,500  
Increase in Net working capital =$5,500  
Total initial investment outlay =$126,000

b. What are the net operating cash flows in Years 1,2, and 3?  
Depreciable basis for the machine = base price + modification cost  
=$108,000+$12500=$120,500  
Deprecation in year 1 @33% = $120,500\*33%=$39,765  
Deprecation in year 1 @45% = $120,500\*33%=$54,225  
Deprecation in year 1 @15% = $120,500\*33%=$18,075

Item year 1 Year 2 Year 3  
Expected before tax Savings $44000 $44000 $44,000  
Depreciation $39,765 $54,225 $18,075  
Operating income before tax $4,235 ($10,225) $25,925  
Tax (@35%) $1,482 ($3,579) $9,074  
Operating income after tax $2,753 ($6,646) $16,851  
Add back depreciation $39,765 $54,225 $18,075  
Operating cash flow $42,518 $47,579 $34,926

c. What is the additional Year-3 cash flow (i.e., the after-tax salvage and the return of working capital)?  
Selling price of machine at the end of 3 years = $65,000  
Book value of machine at the end 3 years = $120,500-$39,765-$54225-$18,075=$8435  
Gain on sale of machine = Selling price - Book value  
= $65,000 - $8,435 = $56,565

Tax on gain @35% =19,798  
Net salvage value = Selling price - Tax=$65,000-$19,798=$45,202  
Return of net working capital = $5,500  
Additional year 3 cash flow = $45,202 + $5,500=$50,702

d. If the project's cost of capital is 12%, should the machine be purchased?

Year Cash Flow Discount Factor Discounted cash flow  
0 ($126,000) 1.000 ($126,000)  
1 $42,518 0.893 $37,963  
2 $47,579 0.797 $37,930  
3 $85,628 0.712 $60,948

Cost of capital 12% NPV $10,841