1. A proposed chemical plant will require a fixed-capital investment of $10 million. It is estimated that the working capital will be 25 percent of the total investment. Annual depreciation costs are estimated to be 10 percent of the fixed-capital investment. If the annual profit will be $3 million, determine the percent return on the total investment and the payout period.

2. A company must purchase one reactor to be used in an overall operation. Four reactors have been designed, all of which are equally capable of giving the required service. The following data apply to the four design:

	Design 1	Design 2	Design 3	Design 4
Fixed capital investment	$10000	$12000	$14000	$16000
Sum of after-tax operating and fixed costs per year	3000	2800	2350	2100

3. A proposed chemical plant has the following projected revenues and operating expenses in millions of dollars

Year	Annual revenue	Annual operating expenses (excluding depreciation)
1	7.0	4.0
2	10.0	5.6
3	15.0	6.8
4	20.0	7.8
5	22.5	8.8
6	24.0	9.6
7	25.0	10.0

The fixed-capital investment for the plant is $50 million with a working capital of $7.5 million. Using a MACRS depreciation schedule with a class life of 5 years, determine:
a. The annual cash flows
b. The net present worth, using a nominal discount rate of 15 percent
c. The DCF, using Polymath