**10-12A.** (*Comprehensive problem*) Traid Winds Corporation, a firm in the 34 percent marginal tax

bracket with a 15 percent required rate of return or cost of capital, is considering a new project.

This project involves the introduction of a new product. This project is expected to last five years

and then, because this is somewhat of a fad project, to be terminated. Given the following information,

determine the free cash flows associated with the project, the project’s net present value, the

profitability index, and the internal rate of return. Apply the appropriate decision criteria.

**Cost of new plant and equipment:** $14,800,000

**Shipping and installation costs:** $ 200,000

**Unit sales:** Year Units Sold

1 70,000

2 120,000

3 120,000

4 80,000

5 70,000

**Sales price per unit:** $300/unit in years 1–4, $250/unit in year 5

**Variable cost per unit:** $140/unit

**Annual fixed costs:** $700,000

**Working-capital requirements:** There will be an initial working-capital requirement of $200,000 just to get

production started. For each year, the total investment in net working capital will be equal to 10 percent of

the dollar value of sales for that year. Thus, the investment in working capital will increase during years 1

through 3, then decrease in year 4. Finally, all working capital is liquidated at the termination of the project

at the end of year 5.

**The depreciation method:** Use the simplified straight-line method over five years. It is assumed that the

plant and equipment will have no salvage value after five years