A1.

 (Calculating the WACC) The required return on debt is 8%, the required return on equity is 14%, and the marginal tax rate is 40%. If the firm is financed 70% equity and 30% debt, what is the weighted average cost of capital?

A3.

 (NPV and PI) Vu Trading Company is evaluating a project that has the estimated cash flows given here. The cost of capital is 14%.

1. What is the project’s NPV?
2. What is the profitability index?

| Year | 0 | 1 | 2 | 3 | 4 |
| --- | --- | --- | --- | --- | --- |
| Cash flow | −100,000 | 30,000 | 30,000 | 60,000 | 60,000 |

1. You are the owner of a nursing home. You have watched Gold Cross make a fortune ferrying your patients to doctors and the hospital. You think this is a business you want to get into. You estimate ambulance fees (your sales paid by the insurance company to you) for a year to be 350,000, actual cash expenses for staffing and operating the ambulance to be 325,000 per year. You can buy a used ambulance from the city for 75,000. If your required return is 12 percent and the life of the used ambulance is 4 years, what is the NPV and should you get into this business?

2. Your company plans to outsource the printing and copying function. You have been asked to evaluate this proposal. You have gathered the following information.

a. Current printing and coping costs within the company: 335,000 per year for next 8 years

b. Your company’s required return: 12%

c. An outsourcing contract has been negotiated with the following payment terms: 10,000 for the first year, 50,000 for the second year, 145,000 for the third year, and 420,000 per year for the following 5 years.

What is the present value of each option? Which option would you choose? Why?

3. You are considering investing in a new business. The current owner is asking 500,000 dollars. You have used the last several years of tax statements from the business to estimate the amount of cash thrown off. At this point you assume that you can generate 175,000 per year free cash from the business.

a. If you expect the life of the business to be 3 years and your required return to be 15 percent, would you pay the owner the 500,000 dollars she is asking? (hint: calculate the net present value and determine if it is zero or better at the discount rate and life assumed.

b. What payment would you make to the owner if you require a fifteen percent return on your investment over the next three years?