

### Session 15a: Post Class tests

1. You are considering buying a rental property. The property costs \$ 2 million but you plan to borrow \$1.5 million at an interest rate of 4%. If the annual rental income, net of operating expenses (but before interest expenses and taxes), is expected to be \$200,000 every year in perpetuity, and you face a 40% tax rate, what is the NPV of the investment to you, as an equity investor? (The cost of equity for real estate investments is 10% and you can assume that depreciation is offset by capital maintenance.)
  - a. -\$1,160,000
  - b. -\$800,000
  - c. \$100,000
  - d. \$340,000
  - e. \$790,698
  - f. None of the above
2. In the last example, assume that you were asked to compute the NPV on the entire investment, rather than just on equity. What is the NPV of the entire investment?
  - a. -\$1,160,000
  - b. -\$800,000
  - c. \$100,000
  - d. \$340,000
  - e. \$790,698
  - f. None of the above
3. Riptide Inc., a swimwear company, is considering acquiring a string of Beachtime Inc., a retail store chain. Beachtime is expected to generate \$ 20 million in after-tax cash flows next year, prior to debt payments, growing 2% a year in perpetuity. You are given the cost of equity and capital for both companies individually and the combined company:

	Cost of equity	Cost of capital
Riptide	8.00%	7.00%
Beachtime	12.00%	11.00%
Combined	10.00%	9.00%

Assuming that there is no synergy, what is the most that Riptide can pay for Beachtime?

- a. \$200 million
- b. \$222.22 million
- c. \$250 million
- d. \$285.71 million
- e. \$333.33 million
- f. \$400 million
- g. None of the above

4. You have been asked to compute the IRR for a project with the following cash flows:

Year	Cash flow
0	-\$400
1	\$300
2	\$1250
3	-\$1200

Based on the cash flows, which of the following are you most likely to find on the IRR?

- a. The IRR cannot be computed
- b. The IRR will be a very large positive number
- c. The IRR will be a very large negative number
- d. There can be more than one IRR

As a follow up, would you take this investment if your cost of capital were 10%?

- a. Yes
- b. No

5. You are looking at a project that has a five-year life with an initial investment of \$ 1 billion, a NPV of \$150 million and an IRR of 25%. The cost of capital for the project is 10%. If the cash flows are positive every year for the five years, what is the modified internal rate of return on this investment?
- a. <10%
  - b. Between 10 and 25%
  - c. 25%
  - d. Greater than 25%
  - e. Cannot tell without more information