

## Session 14a: Post Class tests

1. You are looking at project with a 10-year life. The initial investment is \$100 million and is depreciable straight-line to a salvage value of \$20 million and the after-tax operating income each year is \$12 million. There are no capital maintenance or working capital requirements. The cost of capital for the company taking the project is 8% but this project is in a riskier business, with a cost of capital of 12%. The marginal tax rate is 40%. What is the correct NPV of this project?
  - a. -\$7.68 million
  - b. \$1.36 million
  - c. \$13.00 million
  - d. \$19.44 million
  - e. \$43.47 million
2. You have been asked to analyze the net present value of building a toll road in Asia. You estimate that building the road will cost you \$50 million up front and that you will generate \$ 4 million in cash flows next year and that these cash flows will grow 10% a year for the following four years (Years 2-5). After year 5, you expect the cash flows to continue to grow at the inflation rate (2%). Assuming a cost of capital of 8%, what is the NPV of this project to you?
  - a. \$19.04
  - b. \$31.96
  - c. \$35.65
  - d. \$36.98
  - e. None of the above
3. Now assume that you believe that you can double your cash flows for the next 5 years in the toll road investment described in problem 2, if you cut back on maintenance. If you do this, though, you will no longer be able to operate it as a toll road after year 5 and will have to sell it to the government for \$20 million. Assuming the cost of capital remains at 8%, what is the NPV of the project to you?
  - a. -\$ 11.56 million
  - b. \$1.04 million
  - c. \$2.05 million
  - d. \$ 8.43 million
  - e. None of the above
4. Revere Inc. is a publicly traded company that manufactures kitchen utensils; it has 100 million shares outstanding, trading at \$15/share. It has decided to acquire Luzo Inc., a small competitor, for \$150 million. If Revere's stock price drops to \$14.50/share on the announcement, what is the value that the market is attaching to Luzo Inc.?
  - a. \$50 million
  - b. \$100 million
  - c. \$150 million
  - d. \$200 million
  - e. None of the above

5. The NPV of an investment is the PV of the cash flows over the life of the investment. Lengthening the life of a project, holding the discount rate constant, will therefore always increase the NPV.
  - a. True
  - b. False
6. You have computed the NPV of a project to be \$25 million, using expected cash flows and a risk-adjusted discount rate. You are, however, concerned that you may have made errors on estimating the cash flows and the discount rate. Which of the following make you feel more comfortable with taking the project, given this fear?
  - a. The project has a long payback period
  - b. In your best case scenario, the project has a NPV of \$80 million
  - c. The standard deviation in the NPV, when you do a Monte Carlo simulation yields a high value
  - d. In your worst case scenario, the project has a NPV of \$2 million
  - e. The project NPV is very sensitive to changes in your discount rate