

## Session 15: Post Class tests

1. Giving a project a longer life will always make its NPV increase.
  - a. True
  - b. False
2. You are analyzing a project with a five-year life. The project requires an initial investment of \$10 million, depreciable straight line over 5 years to a salvage value of zero. The expected after-tax operating income is expected to remain constant each year over time and the NPV is \$5.97 million with a five-year life, based on a cost of capital of 8%. If you want to continue this project in perpetuity, what NPV would you assess for this project?
  - a. < \$5.97 million
  - b. \$ 5.97 million
  - c. \$15 million
  - d. \$40 million
  - e. None of the above
3. Assume that you are analyzing whether Facebook should introduce a new smartphone. Based upon your estimates of the cash flows from the phone, you estimate a net present value of -\$400 million. However, you believe that the phone will increase advertising revenues on Facebook by \$80 million next year, growing 2% in perpetuity. The cost of capital for smartphones is 12%, the cost of capital for the advertising business is 10% and the marginal tax rate is 40%. What is the net value effect to Facebook of introducing the smartphone?
  - a. -\$320 million
  - b. \$ 80 million
  - c. \$200 million
  - d. \$ 600 million
  - e. None of the above
4. You are comparing two projects. Project A is a ten-year project, with a 10% cost of capital and an NPV of \$ \$55 million. Project B is a seven-year project with an 8% cost of capital and an NPV of \$45 million. If they are mutually exclusive, which one would you invest in?
  - a. Project A.
  - b. Project B  
Explain.