Session 16a: Post Class tests

1. You are a social media business with excess capacity of 50% on your computer server; if you stay with your existing business, you will not run out of capacity until the end of year 5. You are considering introducing a new service that will use some of the excess capacity, but cause you to run out of capacity at the end of year 2. If the cost of adding a new server is $ 50 million (you can assume no inflation), what is the opportunity cost of using the excess capacity? (You have a cost of capital of 10%, a marginal tax rate of 40% and you can assume that you can expense the cost of the server.)
    a. Zero
    b. $4.11 million
    c. $6.17 million
    d. $10.27 million
    e. $24.79 million
2. Riptide Inc., a swimwear company, is considering acquiring a string of Beachtime Inc., a retail store chain. The merger will allow both firms to benefit: Riptide has a new outlet to showcase its swimwear and Beachtime improves its retail offerings. As a result, the combined firm will generate $ 5 million in additional after-tax cash flows next year, growing 2% a year in perpetuity after that. 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%

    What is the most that Riptide can pay for this synergy?
    a. $50 million
    b. $55.56 million
    c. $62.5 million
    d. $71.43 million
    e. $83.33 million
    f. $100 million
    g. None of the above

3. You own a business and have rented out a large office building, paying $24,000/year for the next 5 years. At the moment, half of your office space is unused and you are thinking of subleasing it out to a tenant, who will pay you $6,000 each year for the use of the space for the next 5 years. Doing so, though, will result in you running out of space for your own business in the fourth year, and you have to pay a temp service $15,000/year for years 4 and 5 to pick up the slack. Ignoring taxes, what is the NPV of subleasing the space? (Your cost of capital is 9%)

a. -$6,662
b. -$3.049
c. $2,963
d. $4,645
e. None of the above

4. You are a power company, looking at acquiring the rights to a green energy technology that is currently non-viable; the costs are too high and the potential market is too small. Which one of the following statements best characterizes how much you would be willing to pay for this technology?
    a. Nothing. The technology is not viable
    b. I would pay only if I were certain that the technology would pay off during the period that I have exclusive rights.
    c. I would pay only there were a high probability that the technology would pay off during the period that I have exclusive rights.
    d. I would pay as long as I have exclusive rights to the technology and there is uncertainty about the potential markets and costs in the future.
    e. None of the above.
5. You are a consumer product company that is considering starting operations in Brazil. Based on your assessment of the cash flows, you believe that the investment has a negative NPV but you believe that, if your initial foray is successful, you could expand further since Brazil would be a very large and profitable market. What would you do?
    a. Don't invest in Brazil. The investment has a negative NPV.
    b. Invest in Brazil. The expansion potential is large.
    c. Invest in Brazil, but only if the value of the "option to expand" exceeds the negative NPV

    What will determine the value of the option to expand?