Session 7: Post Class tests

1. Lixit Inc. is a publicly traded company that reported $100 million in revenues in the most recent fiscal year that ended on December 31. You are valuing the company in April and know that the company reported $30 million in revenues for the first quarter, up from the $22 million it reported in revenues in the same quarter of the previous year. In valuing Lixit today, which of the following numbers would you use for your base year revenues, if you want an updated valuation?
   a. $ 100 million
   b. $108 million
   c. $92 million
   d. $120 million
   e. $130 million
2. You are analyzing Sterling Stores, a retail company. The company reported $25 million in pre-tax operating income in the most recent year and invested capital of $125 million. The operating income, though, was computed after operating lease expenses that amounted to $25 million in the most recent year and the company has commitments to make $20 million in lease payments every year for the next 8 years. Assuming that Sterling Stores has a pre-tax cost of debt of 4% and that you decide to capitalize operating leases, what is the pre-tax return on capital is for Sterling Stores?
   a. 26.53%
   b. 10.53%
   c. 19.26%
   d. 12.77%
   e. None of the above
3. Livewire Inc. is a technology company that reported a pre-tax operating loss in the most recent year of $10 million, after expensing R&D expenses of $30 million during the year. The company reported invested capital of $40 million at the end of the most recent year. You are told that the R&D typically takes 3 years to pay off in this business, and that Livewire had R& D expenses of $24 million, $18 million and $12 million in each of the last 3 years. Assuming that you decide to capitalize R&D expenses, what is the pre-tax return on capital for Livewire?
   a. 2.17%
   b. 5.00%
   c. -10.87%
   d. 43.48%
   e. None of the above
4. Loomix Inc,is a company that has a history of losing money and has accumulated $100 million in net operating losses. You expect the company to generate an operating loss of $50 million next year, followed by pre-tax operating profits of $75 million and $125 million in the following two years. If your marginal tax rate is 40%, how much will Loomix pay cumulatively as taxes in the next three years?
   a. $90 million
   b. $60 million

c. $20 million
d. $30 million
e. None of the above

5. In the most recent year, Revco Inc. reported capital expenditures of $ 80 million and depreciation & amortization of $ 60 million. It also spent $ 100 million in acquisitions, paying $40 million in cash and $ 60 million in stock. Estimate the net capital expenditures for the firm for use in computing the free cash flow to the firm.
   a. $ 80 million
   b. $ 20 million
   c. $ 60 million
   d. $120 million
   e. $ 180 million
6. You are trying to compute the change in working capital to use in computing free cash flow to the firm for Zapata Inc. The firm's total working capital increased from $100 million last year to $120 million this year. However, this working capital includes cash and short term debt; last year's cash balance had $ 30 million in cash and $15 million in short term debt, whereas this year's cash balance has $20 million in cash and $25 million in short term debt. What effect did working capital have on your cash flow this year?
   a. Decreased cash flow by $20 million
   b. Decreased cash flow by $30 million
   c. Decreased cash flow by $35 million
   d. Decreased cash flow by $40 million
   e. None of the above
7. Tymba Inc. generated $20 million in after-tax operating income on revenues of $100 million during the course of the most recent year. You expect revenues to grow 10% a year next year and margins to stay stable. The firm's non-cash current assets are $40 million and its non-debt current liabilities are $50 million, and non-cash working capital as a percent of revenues is expected to remain unchanged next year. If the net cap ex is expected to be $10 million next year, what is your estimate of the FCFF for the next year?
   a. $13 million
   b. $11 million
   c. $8 million
   d. $23 million
   e. None of the above
8. Roomba Inc. is a manufacturer of vacuum cleaners and you have estimated a FCFF of $50 million for firm for the most recent year. Roomba's total debt decreased from $100 to $85 million during the course of the year and it reported interest expense of $10 million for the year. If Roomba's tax rate is 30%, estimate the FCFE for the most recent year.
   a. $ 25 million
   b. $ 58 million
   c. $ 28 million
   d. $ 55 million

e. None of the above

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1. **b. $108 million.** Last year's revenues – Revenues in first quarter last year + Revenues in first quarter this year = 100 -22 + 30 = 108
2. **d. 12.77%.** The first step is to capitalize the lease commitments; the present value of $20 million/year for 8 years @ 4% is $134.65 million**.** The second is to compute the depreciation on the leased asset:
   - Depreciation on leased asset = $134.65/ 8 = $16.38
   - Adjusted Operating Income = $25 m + $25 m - $16.38 = $33.17 million
   - Adjusted capital invested = $125 + $134.65 = $259.65
   - Pre-tax Return on capital = 33.17/259.65 = 12.77%
3. **a. 2.17%.** To compute this return on capital, you have to start with the R&D expenses:

	R&D expenses	Unamortized	Amortization
Current	$30	$30	$0
-1	$24	$16	$8
-2	$18	$6	$6
-3	$12	$0	$4
		$52	$18

   Adjusted operating income = -10 m + 30 m – 18 m = $2 million
   Adjusted capital invested = 40 m + $52 m = $ 92 million
   Pre-tax return on capital = 2/ 92 = 2.17%
4. **c. $20 million**. The current NOL is $100 million. After next year, that NOL will increase to $150 million. That will cover the operating income in year 2 of $75 million fully, with $75 million carried into year 3. Offsetting this against the net income of $125 million in year 3 yields a taxable income of $50 million and taxes of $20 million.
5. **d. $20 million.** Include all acquisitions, whether paid for with cash or stock in cap ex. Net cap ex = 80 + 100 -60 = 120
6. **d. Decreased cash flow by $40 million.** Compute the non-cash working capital for each year:
   - Non-cash WC = WC – Cash + ST Debt
   - Non-cash WC last year = 100 – 30 +15 = 85
   - Non-cash WC this year = 120 -20 + 25 = 125
   - Change in non-cash WC = 125 – 85 = +40 (Decreases CF)
7. **a. $13 million.** To compute the FCFF, first compute the non-cash working capital in both dollar terms and as a percent of revenues:
   - Non-cash WC = 40 -50 = -10
   - Non-cash WC as percent of revenues = -10/100 = -10%
   - Expected revenues next year = $110 million
   - Expected non-cash WC = -$11 million
   - Change in WC = -10-(-11) = 1

   FCFF = 20 (1.10) - $10 +1 = $13 million

8. **c. $28 million**. To get from FCFF to FCFE, you subtract out the after-tax interest expense and the net debt change (if debt increases, it is a cash inflow whereas a debt decrease is cash outflow).
    - FCFF – Interest expense (1-t) + Change in Debt = FCFE
    - 50 – 10 (1-.30) -15 = $28 million