Session 7: Post class test solutions

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. **c. Operating income based upon the average pre-tax margin of the company over the prior 5 years (5%): 5% of $ 1 billion = $50 million**. You do not want to use the average operating income, because the company has tripled in size. You do not want to use the industry average operating margin, since the company has a low price policy and probably lower margins than the competition.