Financial Modeling Fundamentals – Module 13
More Advanced LBO Models –
Quiz Questions

1. **Consider the screenshot below, which shows the balances for a company's Term Loan A, Senior Notes, Mezzanine, and Preferred Stock with PIK interest over three years:**

Financial Figures:	Year 1	Year 2	Year 3
LIBOR:	0.50%	1.00%	1.50%
Term Loan A:	$ 160.0	$ 140.0	$ 120.0
Senior Notes:	110.0	90.0	70.0
Mezzanine:	70.0	70.0	70.0
Preferred Stock (PIK):	50.0		

Interest Rates:	
Term Loan A:	L + 400 bps; 1.00% LIBOR floor.
Senior Notes:	L + 700 bps.
Mezzanine:	11% fixed interest rate.
Preferred Stock (PIK):	12% fixed interest rate, paid-in-kind (PIK).

The Preferred Stock balance has been left blank in Years 2 and 3, so you must calculate it yourself.

Based on the information above, please calculate the company's <u>total interest expense</u> in Year 3. Use the BEGINNING debt balances each year to calculate interest expense.

a. $29.1.

b. $30.5.

c. $28.0.

d. $29.8.

e. $28.5.

2. **Assume that a company has a tax rate of 40% and two outstanding loans:**

Financial Figures:	Year 1	Year 2	Year 3
LIBOR:	0.50%	1.00%	1.50%
Term Loan A:	$ 160.0	$ 140.0	$ 120.0
Senior Notes:	110.0	90.0	70.0
Mezzanine:	70.0	70.0	70.0
Preferred Stock (PIK):	50.0	56.0	62.7
Interest Rates:			
Term Loan A:	L + 400 bps; 1.00% LIBOR floor.		
Senior Notes:	L + 700 bps.		
Mezzanine:	11% fixed interest rate.		
Preferred Stock (PIK):	12% fixed interest rate, paid-in-kind (PIK).		
Term Loan A:	5.00%	5.00%	5.50%
Senior Notes:	7.50%	8.00%	8.50%
Mezzanine:	11.00%	11.00%	11.00%
Preferred Stock (PIK):	12.00%	12.00%	12.00%
Interest Expense:			
Term Loan A:		$ 8.0	$ 7.7
Senior Notes:		8.8	7.7
Mezzanine:		7.7	7.7
Preferred Stock (PIK):		6.0	6.7
Total Interest Expense:		**$ 30.5**	**$ 29.8**

1) A bank loan that has $10 million of annual cash interest expense and $20 million of annual principal repayment; and

2) A PIK loan that has $10 million of annual PIK interest expense with no principal repayment.

How does the company's cash balance change after it records the interest expense and principal repayments from these debt tranches on its financial statements in the first year?

a. Cash decreases by $6 million.

b. Cash decreases by $2 million.

c. Cash increases by $2 million.

d. Cash decreases by $22 million.

3. **Consider the Sources & Uses schedule shown below for a leveraged buyout deal:**

Sources & Uses Schedule:

Sources:	$ in Millions	x EBITDA	% Total:
Revolver:	$ -	0.0 x	0.0%
Term Loan - A:	253.6	1.5 x	18.5%
Term Loan - B:	253.6	1.5 x	18.5%
Senior Notes:	202.9	1.2 x	14.8%
Subordinated Note:	152.2	0.9 x	11.1%
Mezzanine:	152.2	0.9 x	11.1%
Excess Cash:	-	0.0 x	0.0%
Equity Rollover:	-	0.0 x	0.0%
Assume Existing Debt:	-	0.0 x	0.0%
Sponsor Common Equity:	356.4	2.2 x	26.0%
Total Sources:	**$ 1,370.9**	**8.3 x**	**100.0%**

Uses:	$ in Millions	x EBITDA	% Total:
Equity Value of Company:	$ 946.7	5.7 x	69.1%
Refinance Existing Debt:	361.5	2.2 x	26.4%
Assume Existing Debt:	-	0.0 x	0.0%
Advisory, Legal & One-Time Fees:	35.0	0.2 x	2.6%
Capitalized Financing Fees:	27.8	0.2 x	2.0%
Total Uses:	**$ 1,370.9**	**8.3 x**	**100.0%**

Ownership Percentages:	Pre-Deal:	Post-Deal:
Rollover Investor Ownership %:	0.0%	0.0%
Existing Investor Ownership %:	100.0%	0.0%
New Investor Ownership %:	0.0%	100.0%
Total:	**100.0%**	**100.0%**

Based on this schedule, why might you be concerned about the viability of this deal <u>from the perspective of an investor</u>?

a. No excess cash is being used to fund the deal, which implies that the company may have very little cash on-hand.

b. The Revolver is not being drawn on initially, which indicates the company might have liquidity problems.

c. The company's existing debt is being refinanced in the deal, which is much riskier than leaving it in place.

d. Existing shareholders and management team members are not rolling over any equity, which may be a sign that they're not fully behind the company.

e. Subordinated Notes and Mezzanine, which are both more expensive forms of debt, are being used, but it's unclear whether or not they're truly necessary.

4. **Consider the screenshot below of the "Equity" section of a company's Balance Sheet adjustments in a leveraged buyout deal:**

Balance Sheet:	Units	Historical				Transaction Adjustments		
		FY10	FY11	FY12	FY13	Debit	Credit	FY13
Equity:								
Common Stock & APIC:	$ M	$ 442.2	$ 448.1	$ 453.6	$ 459.9	$ (459.9)	$ -	$ -
Retained Earnings:	$ M	756.4	795.6	823.0	853.5	(888.4)	-	(35.0)
Accum. Other Compr. Income:	$ M	4.5	5.3	5.9	4.8	(4.8)	-	-
Treasury Stock:	$ M	(1,045.1)	(1,124.9)	(1,139.2)	(1,157.3)	1,157.3	-	-
Equity Rollover:	$ M	-	-	-	-	-	-	-
Sponsor Common Equity:	$ M	-	-	-	-	-	356.4	356.4
Total Equity:	$ M	**$ 158.1**	**$ 124.2**	**$ 143.3**	**$ 160.8**			**$ 321.5**
Total Liabilities and Equity:	$ M	**$ 778.0**	**$ 772.5**	**$ 801.8**	**$ 791.6**			**$ 1,718.2**

Why is the Retained Earnings "Debit" entry not equal to the negative of the Retained Earnings line item in the most recent historical year?

a. Because Legal & Advisory fees must also be deducted from Retained Earnings.

b. Because Legal & Advisory Fees, as well as Financing Fees, must be deducted from Retained Earnings.

c. It's due to the tax impact of the company's existing Deferred Tax Liability being written off, which must be balanced somewhere else on the Balance Sheet.

d. It's because the company used some of its cash to pay for the transaction fees, which is reflected as a Credit to Cash on the Asset side and a Debit to Retained Earnings on the L&E side.

5. **Consider the following debt schedule for a leveraged buyout transaction with 6 tranches of new transaction debt and 1 tranche of existing debt:**

		Projected				
Debt & Interest Schedule:	*Units*	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Sources of Funds:						
Beginning Cash Balance:	*$ M*	20.7	15.0	15.0	15.0	15.0
Less: Minimum Cash Balance:	*$ M*	(15.0)	(15.0)	(15.0)	(15.0)	(15.0)
Plus: Cash Flow Available for Debt Repayment:	*$ M*	32.7	41.8	41.6	37.7	35.0
Subtotal Before Revolver:	*$ M*	**38.4**	**41.8**	**41.6**	**37.7**	**35.0**
Revolver Borrowing Required:	*$ M*	-	-	-	-	-
Total Sources of Funds:	*$ M*	**38.4**	**41.8**	**41.6**	**37.7**	**35.0**
Uses of Funds:						
Mandatory Debt Repayment:						
Existing Debt:	*$ M*	-	-	-	-	-
Revolver:	*$ M*	-	-	-	-	-
Term Loan - A:	*$ M*	25.4	25.4	25.4	25.4	25.4
Term Loan - B:	*$ M*	5.1	5.1	5.1	5.1	5.1
Senior Notes:	*$ M*	-	-	-	-	-
Subordinated Note:	*$ M*	-	-	-	-	-
Mezzanine:	*$ M*	-	-	-	-	-
Mandatory Repayment Total:	*$ M*	**30.4**	**30.4**	**30.4**	**30.4**	**30.4**
Optional Debt Repayment:						
Existing Debt:	*$ M*	-	-	-	-	-
Revolver:	*$ M*	-	-	-	-	-
Term Loan - A:	*$ M*	7.9	11.4	11.1	7.3	4.6
Term Loan - B:	*$ M*	-	-	-	-	-
Senior Notes:	*$ M*	-	-	-	-	-
Subordinated Note:	*$ M*	-	-	-	-	-
Mezzanine:	*$ M*	-	-	-	-	-
Optional Repayment Total:	*$ M*	**7.9**	**11.4**	**11.1**	**7.3**	**4.6**

Which of the following figures would you include DIRECTLY in the formula for <u>Optional Debt Repayment</u> for the <u>Senior Notes</u> in this schedule?

Assume that ALL cash flow above (Beginning Cash Balance – Minimum Cash Balance) can be used for optional debt repayment.

a. Subtotal Before Revolver.

b. Prior Year Senior Note balance, less mandatory repayments.

c. A switch to take into account whether or not PIK is enabled for each tranche of debt.

d. Revolver Borrowing.

e. Total Mandatory Repayments + Optional Repayments on Existing Debt, the Revolver, and Term Loans A and B.

6. **Consider the schedule shown below for deferred taxes and Net Operating Losses (NOLs) in a leveraged buyout scenario:**

			Projected				
Deferred Tax and NOL Schedule:	***Units***	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
Initial Net Operating Losses (NOLs):	*$ M*	$ -					
Pre-Tax Income:	*$ M*		**(20.0)**	**(25.0)**	**22.8**	**21.7**	**18.7**
Plus: Depreciation of PP&E Write-Up:	*$ M*		2.2	2.2	2.2	2.2	2.2
Plus: New Intangibles Amortization:	*$ M*		0.9	0.9	0.9	0.9	0.9
Pre-NOL Taxable Income:	*$ M*		**(16.8)**	**(21.8)**	**26.0**	**24.8**	**21.8**
Increase / (Decrease) in DTL:	*$ M*		-	-	-	3.7	(1.2)
Beginning NOL Balance:	*$ M*		-	16.8	38.7	12.7	-
Plus: NOLs Created:	*$ M*		16.8	21.8	-	-	-
Less: NOLs Used:	*$ M*		-	-	(26.0)	(12.7)	-
Ending NOL Balance:	*$ M*		**16.8**	**38.7**	**12.7**	**-**	**-**
NOL-Adjusted Taxable Income:	*$ M*		**(16.8)**	**(21.8)**	**-**	**12.1**	**21.8**
Cash Taxes Payable:	*$ M*		**-**	**-**	**-**	**4.7**	**8.4**
Increase / (Decrease) in DTA:	*$ M*		6.5	8.4	(10.0)	(4.9)	-

What is the PROBLEM with this schedule?

a. In the Years 3 and 4 of this schedule, the correct amount of NOLs are not used to offset taxable income.

b. In Year 4, the DTL and DTA both change at the same time, which is not allowed under standard accounting rules.

c. It's impossible for Cash Taxes Payable to be positive when both the DTA and the DTL are changing in the same year, as is the case in Year 4.

d. The D&A on asset write-ups should not impact the company's taxable income at all, since D&A is a tax deduction anyway.

e. Nothing – there are no problems, and it is set up and works correctly based on the screenshot shown above.