Inventory Question

A small-scale t-shirt manufacturer is currently trying to figure out the value of their inventory. It started the year with 90 regular t-shirts on hand that cost \$10 each and no other inventory, and it made the following purchases and sales throughout the year:

Date	
January 5 th	Bought 60 t-shirts at \$15 each
March 23 rd	Sold 50 t-shirts for \$20 each
April 5 th	Sold 80 t-shirts for \$20 each
April 15 th	Bought 40 t-shirts at \$18 each.
August 25 th	Sold 20 t-shirts for \$20 each
December 15 th	Sold 5 t-shirts for \$20 each

- 1. What is the cost of goods sold for the year, assuming the company uses perpetual LIFO?
- 2. What is the value of inventory at the end of the year, assuming the company uses perpetual FIFO?
- 3. What is the gross profit for the year, assuming the company uses perpetual average cost?

Inventory	FIFO	LIFO	Average Cost
Start (have 100)	90 @ 10	90 @ 10	90 @ 10
Jan 5 (Buy 60@\$15)	90 @ 10, 60 @ 15	60 @ 15, 90 @ 10	150 @ 12
Mar 23 (Sell 50)	40 @ 10, 60 @ 15	10 @ 15, 90 @ 10	100 @ 12
Apr 5 (Sell 80)	20 @ 15	20 @ 10	20 @ 12
Apr 15 (Buy 40@\$18)	20 @ 15, 40 @ 18	40 @ 18, 20 @ 10	60 @ 16
Aug 25 (Sell 20)	40 @ 18	20 @ 18, 20 @ 10	40 @ 16
Dec 15 (Sell 5)	35 @ 18	15 @ 18, 20 @ 10	35 @ 16

Notes:

Revenue = $155 \times $20 = $3,100$. Starting inventory = $90 \times $10 = 900 Purchases = $60 \times $15 + 40 \times $18 = $1,620$

- 1. COGS under LIFO = Starting Inventory + Purchase Ending inventory = \$900 + 1,620 - (15 x \$18 + 20 x \$10) = \$2,050
- 2. Ending inventory under FIFO = 35 x 18 = \$630
- Gross profit under average cost = Revenue COGS
 = \$3,100 (130 x \$12 + 25 x \$16) = \$1,140

Non-current Assets Question

On March 5th, the t-shirt company decided to acquire their rival for a lump sum cash payment of \$1000. In the acquisition, they acquired a printing press (machinery) worth \$1,080 and a standard printer (equipment) worth \$120. Given that they only acquired PP&E, they would like to book this acquisition as a basket purchase of assets.

1. What is the journal entry for this acquisition, assuming they use a basket purchase method to record it?

	Market price	Total	% of Total	Total cost	Asset cost
Machinery	\$1,080	\$1,200	90%	\$1,000	\$900
Equipment	\$120	\$1,200	10%	\$1,000	\$100

DATE	ACCOUNT	DR	CR
MAR 5	Machinery	900	
	Equipment	100	
	Cash		1,000

After acquiring the PP&E, the company decided that the machinery should use double declining balance depreciation over 3 years. They do not expect to receive any compensation on disposal.

- 2. How much depreciation should they book over the first year? Second year? Third (final) year?
- 3. If they decide to sell the machinery for \$400 right after recording depreciation for the first year, what would the journal entry be?
- 2. For double declining balance, the formula is (Cost Accumulated depreciation) x (2/years)

Year 1: (900 - 0) * 2/3 = \$600 Year 2: (900 - 600) * 2/3 = \$200 Year 3: (900 - 800) - 0 = \$100

3.

DATE	ACCOUNT	DR	CR
JAN 1	Cash	400	
	Accumulated depreciation machinery	600	
	Machinery		900
	Gain on asset sale		100

<u>Liabilities</u>

In the previous acquisition, the company did not have \$1,000 on hand. Instead, they received financing from a supplier via a 2 year, 5% interest note payable of \$1,000. All interest is due at maturity. They recorded the initial receipt of the financing as follows:

		DR	CR
Jan 1, 2017	Cash	1,000	
	Notes payable		1,000

- 1. At the end of 2017, they need to recognize interest expense on the note payable. Write out the adjusting entry for this.
- 2. At the end of 2018, they will need to pay off the note. Write out the entry for this.

1.

DATE	ACCOUNT	DR	CR
DEC 31, 2017	Interest expense	50	
	Interest payable		50
2.			
DATE	ACCOUNT	DR	CR
DATE DEC 31, 2018	ACCOUNT Interest expense	DR 50	CR
DATE DEC 31, 2018	ACCOUNT Interest expense Interest payable	DR 50 50	CR
DATE DEC 31, 2018	ACCOUNT Interest expense Interest payable Note payable	DR 50 50 1,000	CR

Bond Question

On February 9, 2009, Apple issued a 15-year 3% corporate bond worth \$1.8B. As is standard, the bond uses a 30/360 date basis and has semiannual interest payments. The bond was, on February 9, 2018, trading at a yield of 3.10%. Assume the bond was initially issued at par.

- 1. Was this bond trading at a premium or a discount as of February 9, 2018?
- 2. What is the price the bond was trading at on February 9, 2018, in millions of dollars? [*Round to two decimal places*.]
- 3. What is the accrued interest payable on the bond as of March 2, 2018? [*Round to two decimal places*.]
- 1. The bond is trading at a discount, since the yield is greater than the coupon rate.
- 2. The bond price can be determined using the bond formula:

$$\frac{27M}{0.0155} \left[1 - \frac{1}{(1+0.0155)^{12}} \right] + \frac{1,800}{(1+0.0155)^{12}} = 1,790.21M$$

Note: if you don't adjust the T to be 12 instead of 30, you will get 1,778.54M. In this problem, we should adjust T to be 12, as there are 6 years of semiannual payments remaining on the bond as of February 9, 2018.

- 3. The day count is 23 days using a 30/360 count. Accrued interest is $27M \times \frac{23}{180} = 3.45M$.
 - 4. Let's assume that Apple decided they want to buy back the bond in the open market on February 10th, 2018. If they could buy the bond for the trading price, what would the journal entry look like? [*Round to two decimal places.*]

DATE	ACCOUNT	DR	CR
FEB 9, 2018	Bond payable	1,800M	
	Gain on bond retirement		9.79M
	Cash		1,790.21M
1	in the second		

(Note: no interest expense is needed since we are retiring the bond right after a coupon payment)

5. Let's assume that they issue a new bond in place of the old bond. This time, they issue \$2B of par worth of a 10 year, 1% bond that pays interest *annually*. Due to market instability, however, Apple is forced to sell the bond at a discount, with a 2% yield. What is the carrying value of the bond at issue? In exactly 1 year? In exactly 2 years? [*Round to two decimal places*.]

The initial bond price is: $\frac{20M}{.02} \left[1 - \frac{1}{(1+.02)^{10}} \right] + \frac{2,000M}{(1+.02)^{10}} = 1,820.34M$

Year	Change	Carrying Value	Discount
Issue		1,820.34M	179.66M
1	1,820.34M x 2% - 2,000M x 1% = 16.41M	1,836.76M	163.24M
2	1,836.76M x 2% - 2,000M x 1% = 16.74M	1,853.49M	146.51M
3	1,853.49M x 2% - 2,000M x 1% = 17.07M	1,870.56M	129.44M