

1) (10 pts. total) Below is a simplified farm Balance Sheet.

a) (2 pts.) Use the information given and your knowledge of the relationships among Balance Sheet entries to fill in the **four** missing cells and then answer the questions below.

BALANCE SHEET	1/1/2016	1/1/2015		1/1/2016	1/1/2015
Current Assets	1,400,000	1,500,000	Current Liabilities	600,000	600,000
Non-Current Assets	3,400,000	3,400,000	Non-Current Liabilities	2,400,000	2,300,000
			Total Liabilities	3,000,000	2,900,000
			Equity	1,800,000	2,000,000
Total Assets	4,800,000	4,900,000	Total Liabilities & Equity	4,800,000	4,900,000

b) (2 pts.) Based on this Balance Sheet, what is the Current Ratio on 1/1/2016?

$$CR = \text{current assets} / \text{current liabilities} = 1,400,000 / 600,000 = 2.333$$

c) (2 pts.) Based on this Balance Sheet, what is the Debt to Asset Ratio on 1/1/2016?

$$D:A = \text{total liabilities} / \text{total assets} = 3,000,000 / 4,800,000 = 0.625$$

d) (4 pts.) Suppose you renovate your milking parlor on your farm at a cost of \$100,000. To pay for it you take \$50,000 from your cash savings and \$50,000 comes as a no interest loan from your parents that you have to pay back in 3 years. The column **Before** in the balance sheet below gives the financial data for before you make the purchase. For each entry in the **Before** column, write in the **After** column the new value that applies after you complete the purchase.

BALANCE SHEET	Before	After		Before	After
Current Assets	200,000	150,000	Current Liabilities	100,000	100,000
Non-Current Assets	500,000	600,000	Non-Current Liabilities	300,000	350,000
			Total Liabilities	400,000	450,000
			Equity	300,000	300,000
Total Assets	700,000	750,000	Total Liabilities & Equity	700,000	750,000

2) (11 pts. total) Below is a simplified farm Income Statement.

a) (2 pts.) Use the given information to fill in the three missing cells.

INCOME STATEMENT 1/1/2015 to 1/1/2016	
Crop Sales	450,000
Livestock/Dairy Sales	550,000
Total Revenue	1,000,000
Operating Costs	950,000
Interest Expenses	150,000
Total Costs	1,100,000
Net Farm Income from Operations	-100,000
Unpaid Labor and Management	100,000
Net Farm Income	-200,000

Use the Income Statement above and the Balance Sheet in Question 1 to answer the questions below. Show how you calculate your answers for potential partial credit.

b) (2 pts.) What is this farm's Return on Assets? What is this farm's Rate of Return on Assets?

$$ROA = \text{NFIFO} + \text{Interest} - \text{Unpaid Labor Mgmt} = -100,000 + 150,000 - 100,000 = -50,000$$

$$ROROA = ROA / \text{Avg Assets} = -50,000 / \{ \frac{1}{2}(4,800,000 + 4,900,000) \} = -1.03\%$$

c) (2 pts.) What is this farm's Return on Equity? What is this farm's Rate of Return on Equity?

$$ROE = ROA - \text{Interest} = -50,000 - 150,000 = -200,000$$

$$ROROE = ROE / \text{Avg Equity} = -200,000 / \{ \frac{1}{2}(1,800,000 + 2,000,000) \} = -10.53\%$$

d) (2 pts.) What is this farm's Operating Profit Margin Ratio (i.e. Profit Margin)?

$$\text{Profit Margin} = ROA / \text{Total Revenue} = -50,000 / 1,000,000 = -5\%$$

e) (3 pts) The income statement above shows a net farm income loss of \$200,000, which includes paying \$100,000 to the owner/manager for unpaid labor & management. Briefly explain where the \$100,000 comes from in terms of the farm balance sheet?

Other changes can occur, but the equity has to be reduced by \$100,000.

3) (18 pts. total) Briefly and concisely answer each question below.

a) (2 pts.) Do most farms use cash or accrual accounting for filing taxes?

Cash

b) (2 pts.) Suppose you planted and harvested corn in 2014, but sold it in 2015. If you claim the income on your 2014 taxes, is this cash accounting or accrual accounting?

Accrual Accounting

c) (2 pts.) Suppose you bought seed in November 2014 to plant in May 2015. If you deduct the cost on your 2015 taxes, is this cash accounting or accrual accounting?

Accrual Accounting

d) (3 pts.) You work as lead farm manager for a large farm. Would you use cash or accrual accounting to demonstrate your managerial performance over the last three years? Briefly explain why.

Accrual accounting would allow you to show how much income you generated each season based on the inputs you used each season and the sales you made of each season's crop, regardless of when you bought the inputs and made the sales. An argument could be made to also use cash accounting to show how much you saved in taxes by moving costs and sales between tax years.

e) (3 pts.) If you were a banker analyzing a farmer's loan application to build a milking parlor, would you use a market basis or a cost basis to value the farm's assets? Briefly explain why.

Banks generally use market basis to get a realistic value of the farm assets in order to determine whether they could recover the debt by liquidating the farm's assets.

f) (3 pts.) Suppose your dairy farm has a debt to asset ratio of 0.90 (90%). Explain why this is or is not a problem.

This is generally a problem: you own only 10% of the farm's assets. Most likely your creditors would foreclose on your loans to try to recover some of the debts you owe.

g) (3 pts.) Suppose your dairy farm has a current ratio of 1.3 (130%). Explain why this is or is not a problem.

This is generally not a problem for a dairy, as they have steady income checks to address cash flow issues that may arise, and so can have lower current ratios than some other types of farms.

4) (4 pts. total) You buy a truck to haul grain for \$70,000 with a useful life of 4 years.
a) (2 pts.) Fill in the table below using Straight Line Depreciation for this truck assuming a \$10,000 salvage value. Show your work.

Year	Depreciation During Year	Value at Year End
1	15,000	55,000
2	15,000	40,000
3	15,000	25,000
4	15,000	10,000

$$\begin{aligned} \text{Depreciation} &= (70,000 - 10,000)/4 = 15,000 \text{ each year} \\ \$70,000 - \$15,000 &= \$55,000 \\ \$55,000 - \$15,000 &= \$40,000 \\ \$40,000 - \$15,000 &= \$25,000 \\ \$25,000 - \$15,000 &= \$10,000 \end{aligned}$$

b) (2 pts.) Fill in the table below using 200% Declining Balance Depreciation for this truck for years 1 and 2 only. IGNORE SALVAGE VALUE. Show your work.

Year	Depreciation During Year	Value at Year End
1	\$35,000	\$35,000
2	\$17,500	\$17,500
3	xxxx	xxxx
4	xxxx	xxxx

$$\begin{aligned} \text{Depreciation Rate} &= 200\% \times \frac{1}{4} = 50\% \\ \$70,000 \times 50\% &= \$35,000 \\ \$70,000 - \$35,000 &= \$35,000 \\ \$35,000 \times 50\% &= \$17,500 \\ \$35,000 - \$17,500 &= \$17,500 \end{aligned}$$

5) (8 pts.) Suppose that in June of 2015 you paid \$10,000 for a bull and have been and will be depreciating it for tax purposes using the tax table below.

a) (2 pts.) Enter the depreciation claimed in 2015 and that will be claimed 2016 in the table.

Year	Calendar Year	Depreciation Rate	Depreciation Claimed
1	2015	25.00%	\$2,500
2	2016	30.00%	\$3,000
3	2017	18.00%	
4	2018	11.37%	
5	2019	11.37%	
6	2020	4.26%	

$$\begin{aligned} \$10,000 \times 25\% &= \$2,500 \\ \$10,000 \times 30\% &= \$3,000 \end{aligned}$$

b) (2 pts.) What will be your income tax basis in the bull at the end of 2016?

$$\$10,000 - \$2,500 - \$3,000 = \underline{\underline{\$4,500}}$$

c) (2 pts.) If you sold the bull in December of 2016 for \$6,000, how much gain or loss would you report on your income tax return?

$$\text{Gain} = \text{Sales Price} - \text{Basis} = \$6,000 - \$4,500 = \underline{\underline{\$1,500}}$$

d) (2 pts.) For tax purposes, bulls are breeding livestock. Consider ordinary income tax, self-employment tax, and capital gains tax, which one or ones is this gain or loss subject to?

Capital Gains

6) (11 pts.) Suppose you bought a tractor for \$100,000 in 2013 and chose the Section 179 election for depreciation.

a) (2 pts.) Briefly explain how this affected your taxes, if at all, in 2013.

You were able to deduct \$100,000 from your annual income, so you did not pay ordinary income taxes or self-employment taxes on this \$100,000.

b) (2 pts.) What is your income tax basis in the tractor at the end of 2016?

\$0 because you have fully depreciated it via Section 179

c) (2 pts.) If you sold the tractor in December of 2016 for \$30,000, how much gain or loss would you report on your income tax return?

$Gain = Sales\ Price - Basis = \$30,000 - \$0 = \underline{\$30,000}$

d) (2 pts.) Considering ordinary income tax, self-employment tax, and capital gains tax, which one or ones is this gain or loss subject to?

Ordinary income only

e) (3 pts.) Briefly explain a long-term tax benefit of choosing the Section 179 election for depreciating purchased assets (like the tractor) that occurs when the asset is sold.

You reduced your taxable income by \$100,000 for the year you bought the tractor, avoiding both ordinary income and self-employment taxes on \$100,000. Then when you sold the tractor, you only pay taxes for the gain (not the original \$100,000 purchase price, but the \$30,000 final sales price) and then you only pay ordinary income tax on it, not self-employment tax. The main long term benefit is avoiding self-employment taxes, plus you delay ordinary income taxes, and you only pay ordinary income taxes on the value remaining, not the original value.

7) (22 pts. total) Provide short answers to each of the following questions. Mike and Ike own a farm, with all assets owned as marital property under Wisconsin's marital property law. Among their assets is land currently worth \$1,800,000 with a \$300,000 income tax basis. Use this information to answer each question below. **Briefly explain each answer.**

a) (2 pts.) Suppose Mike and Ike gave the land to Tarzan. If gift taxes are due, who would pay them, Mike and Ike or Tarzan? Based on current tax laws, would gift taxes be due?

Mike and Ike would pay gift taxes if due, but current laws would almost certainly mean that **gift taxes would not be due**, given the \$12,000 annual exclusion the \$5,000,000+ lifetime exclusion.

b) (2 pts.) If Tarzan sold the land for \$1,800,000 after Mike and Ike gave it to him, how much gain or loss would Tarzan have to report as a result of the sale?

Basis transfers with gift, so $Gain = Sales\ Price - Basis = \$1,800,000 - \$300,000 = \underline{\$1,500,000}$

- c) (2 pts.) If Mike and Ike sold the land to Tarzan for \$1,800,000, how much gain or loss would Mike and Ike have to report as a result of the sale?

$$\text{Gain} = \text{Sales Price} - \text{Basis} = \$1,800,000 - \$300,000 = \underline{\$1,500,000}$$

- d) (2 pts.) Considering ordinary income tax, self-employment tax, and capital gains tax, which one or ones is this gain or loss subject to?

Gain from the sale of land is subject to Capital Gains tax.

- e) (2 pts.) Mike and Ike contribute the land to a General Partnership they have formed with Tarzan and the Partnership sells the land for \$1,800,000, how much gain or loss would the Partnership realize?

$$\text{Basis transfers, so Gain} = \text{Sales Price} - \text{Basis} = \$1,800,000 - \$300,000 = \underline{\$1,500,000}$$

- i) (2 pts.) Would the Partnership pay income tax on the gain or loss?

Partnership does not pay taxes, but passes the income on to the partners who pay taxes.

- ii) (2 pts.) Instead of selling the land, the Partnership returns the land to Mike and Ike. Does the Partnership and/or Mike and Ike have to pay income tax due to this transfer?

Transferring assets out of an LLC does not trigger recognition of gain, so no taxes paid.

- f) (2 pts.) If instead Mike and Ike contribute the land to an LLC in exchange for an ownership interest in the LLC and then the LLC sells the land for \$1,800,000, how much gain or loss would the LLC realize?

$$\text{Basis transfers, so Gain} = \text{Sales Price} - \text{Basis} = \$1,800,000 - \$300,000 = \underline{\$1,500,000}$$

- i) (2 pts.) Would the LLC pay income tax on this gain or loss?

LLC does not pay taxes, but passes the income on to the partners who pay taxes.

- ii) (2 pts.) Mike and Ike change their mind and instead of selling the land, the LLC returns the land back to Mike and Ike. Would the LLC and/or Mike and Ike have to pay income tax as a result of this transfer?

Transferring assets out of an LLC does not trigger recognition of gain, so no taxes paid.

- g) (2 pts.) Mike dies, giving his interest in the land to Ike in his will, and then Ike gives the land to Tarzan. How much gain or loss would Tarzan have to report if he sold it for \$1,800,000?

$$\text{Basis updates to fair market value } (\$1,800,000) \text{ on the date of Mike's death and this basis transfers with the gift, so Gain} = \text{Sales Price} - \text{Basis} = \$1,800,000 - \$1,800,000 = \underline{\$0}$$

8) (9 pts. total) Provide short answers to each question below.

a) (3 pts.) Which business entities discussed in class must file or register with the state?

LLC, C-Corporation, S-Corporation

Technically in most states, limited liability partnerships (LLP) do as well, but I did not make it that clear in class.

b) (3 pts.) Which business entities discussed in class do not pay taxes on their income, but pass the income on to the owners who pay taxes?

Partnership (both limited and general), LLC, S-Corporation

c) (3 pts.) If you are a member of an LLC and another member of the LLC buys a tractor for the LLC on credit, could the lender seize your personal assets to pay off this debt? Briefly explain why/why not.

No, the limited liability of an LLC means there is a firewall between the owners and the liabilities of the company. Your personal assets would be subject to seizure to pay off LLC debts only if the lender had you personally sign for the loan.

9) (7 pts.) True or False? Mark your answer based on material discussed in class.

- a) T X F ___ Inventory changes are common non-cash revenues in farm accounting.
- b) T X F ___ Most small farmers have other jobs to make a “good” living
- c) T X F ___ Most of the beginning farmers we examined reported starting slow, using apprenticeships or having mentors help them.
- d) T X F ___ Dairy grazing is a lower cost, lower output production system that seems to work for some farmers.
- e) T X F ___ If you organize a farm as a C-corporation with relatives, you can be a shareholder, serve on the board of directors and be chief executive officer.
- f) T ___ F X Large dairy farmers and environmentalist in northeastern WI are working together against the DNR to clean up manure contaminated wells.
- g) T X F ___ The author of “Don’t let your children grow up to be farmers” has become famous, with a TED talk about his seaweed and oyster farm.