AAE 320 Spring 2015 Exam #2 Name: KEY

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	12/31/2014	12/31/2013		12/31/2014	12/31/2013
Current Assets	1,800,000	1,500,000	Current Liabilities	700,000	600,000
Non-Current Assets	3,400,000	3,200,000	Non-Current Liabilities	2,500,000	2,200,000
			Total Liabilities	3,200,000	2,800,000
			Equity	2,000,000	1,900,000
Total Assets	5,200,000	4,700,000	Total Liabilities & Equity	5,200,000	4,700,000

b) (2 pts.) Based on this Balance Sheet, what is the Current Ratio on 12/31/**2014**?

CR = current assets/current liabilities = 1,800,000 / 700,000 = 2.57

c) (2 pts.) Based on this Balance Sheet, what is the Debt to Asset Ratio on 12/31/**2014**?

DA = total liabilities/total assets = 3,200,000 / 5,200,000 = 0.615

d) (4 pts.) For each item below, identify weathered it is classified as a current asset, non-current asset, current liability or non-current liability **and *briefly* explain why**.

$500,000 of corn stored on your farm for your milk cows
Current asset, useful life < 1 year (generally), very liquid

Tractor you bought for $300,000 and completely depreciated using the Section 179 election
Non-current asset, useful life > 1 year (generally)

$5,000 your neighbor owes you because you custom harvested his corn with your combine
Current asset, useful life < 1 year (generally), accounts receivable are liquid

$50,000 you owe to your parents on a long-term no interest loan they gave you to start farming
Non-current liability, due longer-term, > 1 year

2) (8 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	12/31/2013 to 12/31/2014
Crop Sales	*550,000*
Livestock/Dairy Sales	700,000
Total Revenue	1,250,000
Operating Costs	900,000

Interest Expenses	150,000
Total Costs	*1,050,000*
Net Farm Income from Operations	*200,000*
Unpaid Labor and Management	100,000
Net Farm Income	100,000

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 = NFIfO + Interest – UnpaidLabrMangmt = 250,000 + 150,000 – 100,000 = 250,000

ROROA = ROA/Avg Assets = 250,000 / ½(5,200,000+4,700,000) = 250,000/4,950,000 = 5.05%

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

ROE = ROA – Interest = 250,000 – 150,000 = 100,000

ROROE = ROE / Avg Equity = 100,000 / ½(2,000,000 + 1,900,000) = 5.13%

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

Profit margin = ROA / Total revenue = 250,000 / 1,250,000 = 20%

3) (6 pts. total) Briefly and concisely answer each question below.
a) You sell a tractor for $100,000 that has been fully depreciated ($0 basis) and use the money to buy $100,000 of corn (ignore taxes). Explain how this transaction affects these measures:

a) (2 pts.) Your current assets and non-current assets

Sale converts a tractor (non-Current Asset) into corn (Current Asset),
Current Assets increase, Non-current Asses decrease

b) (2 pts.) Your current ratio

CR = CA/CL. Because numerator increase and denominator does not change, CR increases.

b) (2 pts.) Your debt to asset ratio and your equity

DA = (CL + nonCL)/ (CA + non-CA): the numerator dos not change, the denominator does not change either, since the $100,000 just transferred between non-CA and CA, so NO CHANGE

Equity: no change since just a transfer between non-CA and CA

4) (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 2015 taxes, is this cash accounting or accrual accounting?

Cash, since did not do accrual adjustment and put the income in 2014 when crop produced

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

Cash, since did not do accrual adjustment and put the cost in 2015 when crop produced

d) (3 pts.) To demonstrate your ability as a farm manager, would you use cash or accrual accounting? Briefly explain why.

Usually recommend accrual accounting to see how much money you made on each crop produced, but putting the costs for the crop in the production year and the income as well.

However, could compare your cash accounting to accrual accounting to show your ability as a tax manager, by showing how much reduced taxes by using cash accounting.

f) (3 pts.) Do banks typically use a market basis or a cost basis to value the land when used as collateral for a loan? Briefly explain why.

Market basis since they want to know the current market value of the assets so that if they have to foreclose on the loan, they have an idea of how much they could collect form asset sale to pay off the original loan.

g) (3 pts.) Suppose your dairy farm has a debt to asset ratio of 0.10 (10%). Explain why this is or is not a problem.

This is generally not a problem in the sense that it means you have largely paid off the farm debt and own 90% of the farm assets.

The only downside could be if this is because you have very little diversification of you assets – you have them all held as farm assets, not in other types of investments, so you are subject to more risk due to asset price changes.

g) (3 pts.) Suppose your dairy farm has a current ratio of 8.7 (870%). Explain why this is or is not a problem.
This is huge, meaning you have 8.7 times as many assets in liquid form to cover your current liabilities. Usually recommend holding more asset as longer-term working assets that generate higher rates of return than liquid farm assets.

5) (4 pts. total) You buy a truck to haul grain for $90,000 with a useful life of 4 years.
a) (2 pts.) Fill in the table below using Straight Line Depreciation for this tractor assuming a $10,000 salvage value. Show your work.

Year	Depreciation During Year	Value at Year End
1	*20,000*	*90,000 – 20,000 = 70,000*
2	*20,000*	*70,000 – 20,000 = 50,000*
3	*20,000*	*50,000 – 20,000 = 30,000*
4	*20,000*	*30,000 – 20,000 = 10,000*

R_{SL} = 1/useful life = ¼ = 25%
(90,000-10,000) x 25% = 20,000/year

b) (2 pts.) Fill in the table below using 150% 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	*90,000 x 0.375 =33,750*	*90,000 – 33,750 = 56,250*
2	*56,250 x 0.375 =21,094*	*56,250 – 21,094 = 35,156*
3	xxxx	xxxx
4	xxxx	xxxx

R_{150DB} = 1.5 x R_{SL} = 1.5 x 25% = 37.5%

6) (12 pts.) Suppose that in February of 2014 you paid $150,000 for a tractor and have been depreciating it for tax purposes using the tax table below.

a) (2 pts.) Enter the depreciation claimed in 2014 and that will be claimed 2015 in the table.

Year	Calendar Year	Depreciation Rate	Depreciation Claimed
1	2014	25.00%	*150,000 x 25% = 37,500*
2	2015	21.43%	*150,000 x 21.43% = 32,145*
3	2016	15.31%	
4	2017	10.93%	
5	2018	8.75%	
6	2019	8.74%	
7	2020	8.75%	
8	2021	1.09%	

b) (2 pts.) What will be your income tax basis in the tractor at the end of 2015?

150,000 – 37,500 – 32,145 = 80,355

c) (2 pts.) If you sold the tractor in December of 2015 for $90,000, how much gain or loss would you report on your income tax return?

Gain = Sale Price – Basis = 90,000 – 80,355 = $9,645

Rather than using the table in part a, suppose instead you chose the Section 179 election and deducted the full cost of the tractor for your 2014 taxes.

d) (2 pts.) What is your income tax basis in the tractor at the end of 2015?

Basis = $0, fully depreciated

e) (2 pts.) If you sold the tractor in December of 2015 for $90,000, how much gain or loss would you report on your income tax return?

Gain = Sale Price – Basis = 90,000 – 0 = $90,000

f) (2 pts.) Consider ordinary income tax, capital gain tax, and self-employment tax. Of these three taxes, which one or ones is this gain or loss subject to?

Only ordinary income tax (no self-employment or capital gains taxes)

7a) (3 pts.) Briefly explain how buying an asset and choosing the Section 179 election, rather than using the standard IRS table for depreciating purchased assets, affects your taxes, if at all, in the year you purchase the asset.

Can deduct full cost from your taxable income, thus reducing your ordinary income tax paid and your self-employment tax paid. May even be able to get your taxable income into the lower income tax bracket.

7b) (3 pts.) Briefly explain a long-term tax benefit of choosing the Section 179 election for depreciating purchased assets that occurs when the asset is sold.

Longer term when you sell asset and have to claim the gain as taxable income, you only have to pay ordinary income tax on it, not the self-employment income tax.

8) (22 pts. total) Provide short answers to each of the following questions. Mary and Mike own a farm, with all assets owned as marital property under Wisconsin's marital property law. Among their assets is land currently worth $1,300,000 with a $300,000 income tax basis. Use this information to answer each question below. **Briefly explain each answer.**

a) (2 pts.) If Mary and Mike sold the land to Jane for $1,300,000, how much gain or loss would Mary and Mike have to report as a result of the sale?

Gain = sale price – basis = 1,300,000 – 2300,000 = 1,000,000

b) (2 pts.) Consider ordinary income tax, capital gain tax, and self-employment tax. Of these three taxes, which one or ones is this gain or loss subject to?

Only capital gain tax

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

Mary and Mike would pay gift taxes if due, but given the annual exclusions of $14,000 per person and the lifetime exclusion of $5,430,000, very likely no gift taxes would be due.

d) (2 pts.) If Jane sold the land for $1,300,000 after Mary and Mike gave it to her, how much gain or loss would Jane have to report as a result of the sale?

Basis transfers with gift, so Gain = sale price – basis = 1,300,000 – 2300,000 = 1,000,000

e) (2 pts.) Mike dies, giving his interest in the land to Mary in his will, and then Mary gives the land to Jane. How much gain or loss would Jane have to report if she sold it for $1,300,000?

When Mike dies, basis updates to date of death fair market value of 1,300,000, then this basis transfers with the gift, so Gain = sale price – basis = 1,300,000 – 1,300,000 = 0.

f) (2 pts.) Actually, Mike did not die, rather Mary and Mike contributed the land to a C-Corporation in exchange for ownership shares in the C-Corporation and the C-Corporation sold the land for $1,300,000, how much gain or loss would the C-Corporation realize?

Basis transfers to C corp, so Gain = sale price – basis = 1,300,000 – 300,000 = 1,000,000

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

Yes, C-corporations pay taxes

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

Distribution of asset from C corporations triggers recognition of gain. Furthermore, this gain is taxed at both the C corporation level and at the individual level (Mary and Mike).

g) (2 pts.) If instead Mary and Mike contributed the land to an LLC in exchange for an ownership interest in the LLC and then the LLC sold the land for $1,300,000, how much gain or loss would the LLC realize?

Basis transfers to LLC, so Gain = sale price – basis = 1,300,000 – 300,000 = 1,000,000

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

No, LLC does not pay taxes, passes gain onto the owners who may pay taxes

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

Distribution of asset from LLC does NOT triggers recognition of gain.

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

a) (3 pts.) Which business entities discussed in class do not legally need to file or register with the state?

Sole Proprietor, Partnerships (both general and limited liability (silent) partnerships)

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?

Partnerships (both types), S Corporations, and LLCs

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

Yes, all partners are liable for the debts of the partnership and so their personal assets can be used to pay off the debts of the partnership. There is no "firewall" between the partnership and the personal assets of the partners.

10) (5 pts.) True or False? Mark your answer based on material discussed in class.

a) T_**X**_ F___ Depreciation is a common non-cash cost in farm accounting.

b) T___ F_**X**_ According to the Dairy Carrie blog we discussed, greed and corporations are why dairy farms were getting bigger and she is clearly against it.

c) T_**X**_ F___ Based on our discussion of beginning farmer arrangements, most specialist recommend a short-term, employee-employer relationship with incentives when a child first starts to farm with his/her parents.

d) T___ F_**X**_ The Milk Source video we discussed was about how smaller dairy farms are better sources for milk because they generate less manure per cow.

e) T___ F_**X**_ According to the "Farming a Flat Function" lecture in class, most farmers over use inputs like nitrogen fertilizer because they make mistakes.