ECE 472F Problem Set #2 Solutions
Fall, 2015

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Computer One
Balance Sheet
January 1, 2013
($Thousands)

Current assets			Current liabilities		
Cash	126		Bank loan	25	
Prepaid rent	14		Accounts payable	50	
Inventory	150		Total current liabilities		75
Total current assets		290			
			Long-term liabilities		
			Bank loan	25	
Fixed assets			Total long-term liabilities		25
Equipment	60				
Total fixed assets		60	Total liabilities		100
			Owners' equity		250
Total assets		350	Total liabilities and owners' equity		350

NB. The cash account can be calculated as follows:

Equity	250
Bank loan	50
Prepaid rent	-14
Equipment	-60
Inventory (2/3 of purchases)	-100
Cash account balance	126

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Computer One
Income Statement
Twelve Months Ending December 31, 2013
($Thousands)

Sales		1500
Less cost of goods sold		
Materials	975	
Labour	55	
Warranty	45	
		1075
Gross Profit		425
Less other expenses		
Sales salaries	70	
Advertising	45	
Rent	42	
Depreciation	15	

Utilities	12	
Interest	4	188
Net profit		237

NB. Materials can be calculated as follows:

Beginning inventory	150
Plus: Purchases	950
Less: Ending inventory	125
Materials - first year	975

Allowance for estimated warranty repair:

Year 2 - 1.0% of Sales	15
Year 3 - 2.0% of Sales	30
Total	45

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Computer One
Balance Sheet
December 31, 2013
($Thousands)

Current assets		
Cash	412	
Accounts Receivable	100	
Inventory	125	
Total current assets		637
Fixed assets		
Equipment	60	
Less: Accum. Depr.	15	
Total fixed assets		45
Total assets		682

Current liabilities		
Bank loan	25	
Estimated Warranty Repair	15	
Accounts payable	175	
Total current liabilities		215
Long-term liabilities		
Estimated Warranty Repair	30	
Total long-term liabilities		30
Total liabilities		245
Owners' equity		437
Total liabilities and owners' equity		682

NB. The cash account can be calculated as follows:

Opening cash account		126	
Sales	1500		
Less: accounts receivable	100	1400	
Purchases	950		
Plus: Invoice from Jan 1	50		
Less: accounts payable	175	-825	
Salaries		-125	
Partners salary draws		-50	
Advertising		-45	
Bank Loans		-25	
Rent		-28	(last 8 months of the year)
Utilities		-12	
Interest		-4	
Cash account balance		412	

Owners' equity can also be calculated as follows:

Opening owners' equity		250	
Add: Profit from Income Statement	237		
Less: Partners salary draws	50		
Year's increase in owners' equity		187	= profit to be shared by all partners
Ending owners' equity		437	

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Any of a number of ratios can be used to assess the "health" of the business during the first year.

Income Ratio	$\frac{237}{1500}$ *100%	15.80%
Gross Rate of Return	$\frac{237}{682}$ *100%	34.75%
Return on Equity	$\frac{237}{437}$ *100%	54.23%
Return on Investment	$\frac{237}{250}$ *100%	94.80%

These returns, at face value, are excellent for the first year of operation of a new business. They are somewhat overstated because the two engineers are working full-time for only $25,000 when as engineers they could possibly be earning $60-70 K. As well, these salary draws are not reported on the Income Statement.

Note that each engineer has received one share of the business without investing any of their money. This was part of the original deal and the low base salary reflects this fact. Each engineer's compensation is the $25,000 plus a quarter of the share of the profits. For the first year, that amounts to a quarter of the $187,000 plus $25,000 or **$71,750**. This is a form of incentive-based compensation; the better the business performs the higher their compensation. However, it is likely that the engineers worked more than the standard 40 hour work week. Since they are part owners, this is their "sweat equity" investment in the business and their futures.

For the families, "the silent partners", the return is also good. They receive a quarter of the profits for their $125,000 equity investment.

Quarter share of profits $\frac{187}{4}$ = **46,750**

Return on Investment $\frac{46.75}{125}$ *100% = 37.40%