

CHAPTER 3

Solution

Chapter 3 Application Problem #1

Practice Makes Perfect, Inc.

	<u>ASSETS</u>					=	<u>LIABILITIES</u>		+	<u>OWNERS' EQUITY</u>		
	Cash +	Accounts Receivable +	Supplies Inventory +	Equipment -	Accum. Deprec.	=	Notes Payable +	Accounts Payable +	Common Stock +	Retained Earnings +	Revenues -	Expenses
a.	100,000					=			100,000			
b.	50,000					=	50,000					
c.	(48,000)			48,000		=						
d.			2,000			=		2,000				
e.						=		500				(500)
f.	(1,000)					=						(1,000)
g.		2,000				=					2,000	
h.	(1,000)					=						(1,000)
i.	200	(200)				=						
j.	(417)					=						(417)
k.			(300)			=						(300)
l.					(750)	=						(750)
Balance	99,783	1,800	1,700	48,000	(750)	=	50,000	2,500	100,000	-	2,000	(3,967)

Practice Makes Perfect
Income Statement
For the Month ended July 31, 20XX

	\$
Revenues	
Fees Earned	2,000
Expenses	
Wages expense	1,000
Rent expense	1,000
Advertising expense	500
Supplies expense	300
Depreciation expense	<u>750</u>
Total Expenses	<u>3,550</u>
Earnings before Interest & Taxes	(1,550)
Interest expense	<u>417</u>
Income (Loss) before Taxes	<u>(1,967)</u>

Practice Makes Perfect
Balance Sheet
July 31, 20XX

ASSETS

Current Assets

Cash	99,783
Accounts Receivable	1,800
Supplies	<u>1,700</u>
Total Current Assets	103,283

Fixed Assets

Equipment	48,000
Less Accumulated Depreciation	<u>(750)</u>
Net Fixed Assets	47,250

Total Assets	<u>150,533</u>
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LIABILITIES

Current Liabilities

Note Payable	50,000
Accounts Payable	<u>2,500</u>

Total Current Liabilities	52,500
STOCKHOLDERS' EQUITY	
Common Stock	100,000
Retained Earnings (Loss)	<u>(1,967)</u>
Total Stockholders' Equity	<u>98,033</u>
Total Liabilities & Stockholders' Equity	<u>150,533</u>

CHAPTER 4

Opportunity #1

14250 units X 7 lines X \$.35 = **\$34,912.50**

Opportunity #2

160 hours X .70 utilization X 5 employees X \$55 per hours = **\$30,800**

Opportunity #3

- a) $\$127,000/\$100 = 1,270$ units last month
- b) $\$134,000/\$100 = 1,340$ units this month
- c) $300 - (1340 - 1270) = 230$ units
- d) $230/1270 = 18.1\%$

Opportunity #4

40 units X 3 salespeople X 50% = 60

40 units X 2 salespeople X 75% = 60

40 units X 5 sales people X 100% = 200

$60+60+200= 320$ units

320 units X \$1050 = **\$336,000**

Opportunity #5

1,000,000 X 42% X 20% = 84,000

a) Year 1 $84,000 \times 4\% = 3,360$

Year 2 $84,000 \times 8\% = 6,720$

Year 3 $84,000 \times 12\% = 10,080$

b) Year 1 $84,000 \times 1\% = 840$

Year 2 $84,000 \times 2\% = 1680$

Year 3 $84,000 \times 3\% = 2520$

Opportunity #6

$15000 \text{ units per line per month} \times 2 \text{ lines} \times 12 \text{ months} = 360,000 \text{ units}$

No, it cannot reach that goal with just 2 lines.

Opportunity #7

$3 \text{ lawyers} \times 40 \text{ hours per week} \times 40\% \text{ utilization} \times \$200 \text{ per hours} = \$9,600$

Opportunity #8

$1,200 \times 4.5\% = 54 \text{ units}$

Opportunity #9

$\$24,000 - \$21,000 - \$2,275 = \$725 \text{ left to pay salesperson}$

$\$4,000 / \$725 = 14.5 \text{ cars per salesman}$

Opportunity #10

$\$1,000,000 / \$200 = 5000 \text{ units}$

10,000,000 population X 50% X market share = 5000

Solve for market share:

$5000/5,000,000 = .1\%$ **market share**

CHAPTER 5

Opportunity #1

Break-even Quantity = $F/(P-V)$

$\$2,000,000/(1 - 550) = \text{negative number}$

This product does not even cover its variable costs so it cannot possibly make a profit.

Opportunity #2

$(\$50,000 \times (1+.0765)) + \$7,200 = \mathbf{\$61,025}$

Opportunity #3

$\$120 \times 2.5 \text{ months} = \$300 \text{ commission per sale}$

$35 \text{ units} \times \$300 = \$10,500 \text{ total commission}$

$35 \text{ units} \times \$25 \text{ hook up} = \$875 \text{ total hook up costs}$

$35 \text{ units} \times \$50 \text{ service} = \$1,750 \text{ total service cost}$

$\$10,500 + \$875 + \$1,750 = \mathbf{\$13,125}$

Opportunity #4

$120 \text{ units per hour} \times \$15 \text{ cost per unit} \times 8 \text{ hours} \times 20 \text{ days} = \$288,000$

$[\$22 \times (1.0765) \times 8 \text{ hours} \times 20 \text{ days}] + \$565 \text{ benefits} = \$4,354.28$

$\$288,000 \text{ material cost} + \$4,354.28 \text{ labor cost} + \$1,000 \text{ maintenance} = \mathbf{\$293,354.28}$

Opportunity #5

\$2,200 rent X 12 months = \$26,400

\$2,600 accounting cost X 12 months = \$31,200

\$1,100 insurance X 12 months = \$13,200

\$550 utilities X 12 months = \$6,600

\$6,500 benefits + (\$89,000X1.0765) = \$102,308.50

\$26,400+\$31,200+\$13,200+\$6,600+\$102,308.50 = **\$179,708.50**

Opportunity #6

\$125 profit per unit X 1,000 units = **\$125,000 is not enough to cover the fixed cost of \$179,708.50 in question 5**

Opportunity #7

V = \$50

F = \$100,000

P = \$65

Profit = PQ – VQ – F = 65(2000) – 50(2000) - \$100,000 = **-\$70,000 loss**

Profit/investment = $-\$70,000/\$2,500,000 = -2.8\%$ **So no, it does not achieve a 22% return.**

Opportunity #8

\$150,000/6,500 units = **\$23.08 per unit**

CHAPTER 15

Opportunity #1

Value = $\$100,000 / .15 = \$666,667$. Yes, definitely pay \$50,000 for this firm.

Opportunity #2

$\$100,000 / .50 = \$200,000$. Value falls \$466,667 but decision does not change to buy if the price is \$50,000.

Opportunity #3

EBIT \$105,000

Personal \$ 15,000

Deprec. \$ 20,000

Salary adj. \$125,000

EBITDA \$247,000

Equipment - \$5,000

Cash flow \$242,000

Opportunity #4

0	CF ₀
100000	CF ₁
90000	CF ₂

110000 CF3
120000 CF4
541667 CF5 where $125000 + (125000/.30) = 541667$
30 i

NPV = **\$368,147.80**

Opportunity #5

$\$368,747.80$ total value - $\$65,000$ debt = **$\$303,147.80$ Proceeds**

Opportunity #6

$\$368,747.80$ value - $\$10,000$ basis = $\$358,747.80$ "profit"

$\$358,747.80 \times 40\% = \$143,499.12$ Tax

$\$359,747.80 - \$6865,000$ debt - $\$143,499.12$ Tax = **$\$160,248.68$ net proceeds**

Opportunity #7

a) $\$170,000/.20 = \mathbf{\$850,000}$

b) 0 CF0
120000 CF1
140000 CF2
150000 CF3
160000 CF4
170000 CF5
20 i
NPV **$\$429,507.46$**

c) 0	CF0
120000	CF1
140000	CF2
150000	CF3
160000	CF4
1020000	CF5 where $170000 + 850000 = 1020000$
20	i
NPV	\$771,104.40

Opportunity #8

$\$220,000 \text{ EBITDA} \times 2.1 \text{ Multiplier} = \mathbf{\$462,000}$

Opportunity #9

$\$1,500,000 \times (1 - .25) = \mathbf{\$1,125,000}$

Opportunity #10

$(\$1,600,000 \text{ DCF} + \$1,550,000 \text{ Multiple Approach})/2 = \mathbf{\$1,575,000}$. Ignore liquidation value since highest and best use is as a going concern.