

Solutions to numerical problems from Test 1

1. $MVA = 20 \text{ million}(\$45) - \$400 \text{ million} = \500 million

2.

$$BEP = 0.41 = \frac{EBIT}{\$272 \text{ million}} \quad EBIT = \$111.52 \text{ million}$$

$$ROA = 0.11 = \frac{NI}{\$272 \text{ million}} \quad NI = \$29.92 \text{ million}$$

$$NI = EBT - 0.4(EBT) \quad \$29.92 \text{ million} = .6EBT \quad EBT = \$49.87 \text{ million}$$

$$EBIT - INT = EBT \quad \$111.52 \text{ million} - INT = \$49.87 \text{ million} \quad INT = \$61.65 \text{ million}$$

$$TIE = \frac{\$111.52 \text{ million}}{\$61.65 \text{ million}} = 1.81$$

3. $ROE = ROA \times \frac{1}{1 - \frac{D}{A}} = 13\% \times \frac{1}{1 - .42} = 22.41\%$

4.

| Income Statement | |
|---|----------|
| Sales | \$9,600 |
| Operating costs | 4,440 |
| EBIT | \$5,160 |
| Interest | 300 |
| Earnings before taxes | \$4,860 |
| Taxes (40%) | 1,944 |
| Net income available to common stockholders | \$2,916 |
| Dividends | 874.80 |
| Addition to retained earnings | 2,041.20 |

5.

$$AFN = \frac{70 \text{ million}}{100 \text{ million}} (\$20 \text{ million}) - \$2 \text{ million} - \frac{\$5 \text{ million}}{\$100 \text{ million}} \times \$120 \text{ million} \times (1 - .4)$$
$$= \$8.4 \text{ million}$$

6.

Balance Sheet

| Assets | 2003 |
|------------------------------|--------------------|
| Cash | \$ 198,000 |
| Accounts receivable | 396,000 |
| Inventories | 792,000 |
| Total current assets | <u>\$1,386,000</u> |
| Net fixed assets | <u>1,584,000</u> |
| Total assets | <u>\$2,970,000</u> |
| Liabilities and equity | |
| Accounts payables | \$396,000 |
| Notes payable | 292,313 |
| Accrued liabilities | 198,000 |
| Total current liabilities | <u>\$886,313</u> |
| Common stock | 1,800,000 |
| Retained earnings | 283,687 |
| Total liabilities and equity | <u>\$2,970,000</u> |

Income Statement

| | 2003 |
|-----------------|------------------|
| Sales | \$3,960,000 |
| Operating costs | <u>3,607,692</u> |
| EBIT | \$352,308 |
| Interest | <u>20,280</u> |
| EBT | \$362,028 |
| Taxes (40%) | <u>132,811</u> |
| Net Income | <u>\$199,217</u> |
| Dividends | \$119,530 |
| Addition to RE | \$79,687 |

7. $NOPAT = \$4 \text{ million}(1 - 0.4) = \2.4 million

$FCF = \$2.4 \text{ million} - \$1.3 \text{ million} = \$1.1 \text{ million}$