Chapter 3 – Sample Problems

1. In its recent income statement, Smith Software Inc. reported $26 million of net income, and in its year-end balance sheet, Smith reported $353 million of retained earnings. The previous year, its balance sheet showed $339 million of retained earnings. What were the total dividends paid to shareholders during the most recent year? (Answers are in $ millions.)

a. $14.00
b. $12.00
c. $26.00
d. $10.00
e. $33.00

2. In its recent income statement, Smith Software Inc. reported paying $10 million in dividends to common shareholders, and in its year-end balance sheet, Smith reported $365 million of retained earnings. The previous year, its balance sheet showed $354 million of retained earnings. What was the firm's net income during the most recent year? (Answers are in $ millions.)

a. $10.00
b. $11.00
c. $21.00
d. $8.00
e. $28.00

3. Cox Corporation recently reported an EBITDA of $66 million and $8 million of net income. The company has $11 million interest expense and the corporate tax rate is 40.0% percent. What was the company's depreciation and amortization expense? (Answers are in $ millions.)

a. $63.00
b. $55.00
c. $58.00
d. $47.00
e. $41.67

4. Hayes Corporation has $405 million of common equity on its balance sheet and 9,000,000 shares of common stock outstanding. The company's Market Value Added (MVA) is $81 million. What is the company's stock price? (Answers are in $ millions.)

a. $6.87
b. $45.00
c. $9.00
d. $59.42
e. $54.00

5. Brooks Sisters' operating income (EBIT) is $140 million. The company's tax rate is 40.0%, and its operating cash flow is $115.3 million. The company's interest expense is $28 million. What is the company's net cash flow? (Assume that depreciation is the only non-cash item in the firm's financial statements.) (Answers are in $ millions.)

a. $31.30
b. $67.20
c. $98.50
d. $84.00
e. $112.00

6. Casey Motors recently reported net income of $84 million. The firm's tax rate was 40.0% and interest expense was $27 million. The company's after-tax cost of capital is 12.0% and the firm's total investor supplied operating capital employed equals $420 million. What is the company's EVA? (Answers are in $ millions.)

a. $84.00
b. $49.80
c. $140.00
d. $100.20
e. $50.40

Answers:

1. b
2. c
3. e
4. e
5. c
6. b

1.

RE(new) = $353,000,000
RE(old) = $339,000,000
Change = $ 14,000,000

Change in RE = Net income – Dividends
$14,000,000 = $26,000,000 – Dividends
Dividends = $12,000,000

2.

RE(new) = $365,000,000
RE(old) = $354,000,000
Change = $ 11,000,000

Change in RE = Net income – Dividends
$11,000,000 = Net income - $10,000,000
Net income = $21,000,000

3. Net income = (EBIT – interest)(1 – tax rate)
$8,000,000 = (EBIT - $11,000,000)(1 – 0.40)
$13,333,333 = EBIT - $11,000,000
EBIT = $24,333,333

EBIT = EBITDA – (Depreciation and amortization)
$24,333,333 = $66,000,000 – (Depreciation and amortization)
Depreciation and amortization = $41,666,667 = $41.67 million

4.

MVA = (shares outstanding)(stock price) – book value of common equity
$81,000,000 = (9,000,000)(stock price) - $405,000,000

$486,000,000 = (9,000,000)(stock price)
stock price = $54.00

5.
Net cash flow = Net income + (Depreciation and amortization)

First, find net income.

EBIT	$140,000,000
Interest	$ 28,000,000
EBT	$112,000,000
Taxes (40%)	$ 44,800,000
Net income	$ 67,200,000

Now find depreciation.

NOPAT = EBIT(1 – tax rate)
NOPAT = $140,000,000(1 - 0.40)
NOPAT = $84,000,000

Operating cash flow = NOPAT + Depreciation
$115,300,000 = $84,000,000 + Depreciation
Depreciation = $31,300,000

Net cash flow = Net income + (Depreciation and amortization)
Depreciation is the only non-cash item in the firm's financial statements, so there is no amortization to consider.
Net cash flow = $67,200,000 + $31,300,000
Net cash flow = $98,500,000

6.
EVA = NOPAT – After-tax dollar cost of capital
EVA = EBIT(1 – tax rate) – (% cost of capital)(total investor supplied capital)

Net income = (EBIT – interest)(1 – tax rate)
$84,000,000 = (EBIT - $27,000,000)(1 – 0.40)
$140,000,000 = EBIT - $27,000,000
EBIT = $167,000,000

EVA = EBIT(1 – tax rate) – (% cost of capital)(total investor supplied capital)
EVA = ($167,000,000)(1 – 0.40) – (0.12)($420 million)
EVA = $49,800,000 = $49.80 million