Chapter-~~#~~18

30-12-21
Thursday

Do it! Yes Im doing it!!!

(a) Current Ratio = $\dfrac{\text{current assets}}{\text{current liabilities}}$

For 2010,

$$\text{current ratio} = \frac{\cancel{553.3}\ 2302.6}{1497.7}$$

$$= 1.54:1$$

For 2009,

$$\text{current ratio} = \frac{2199.2}{1322}$$

$$= 1.66:1$$

(b) Inventory Turnover = $\dfrac{\text{cost of goods sold}}{\text{average inventory}}$

[Cost of Goods Sold = Beginning Inventory + Purchase/ Manufacturing ~~+~~ − Ending Inventory]

For 2010,

$$\text{Inventory Turnover} = \frac{1617.4}{\frac{768.3 + 653.5}{2}}$$

$$= 2.28:1$$ (2.275 → 2.8 করছি)

For 2009,

$$\text{Inventory Turnover} = \frac{1476.3}{\frac{653.5 + 599}{2}}$$

$$= 2.36:1$$

[Average Inventory = $\dfrac{\text{Current Inv.} + \text{Prev. Inv.}}{2}$]

(c) For 2010,

$$\boxed{\text{Profit Margin} = \frac{\text{Net Income}}{\text{Net Sales}}}$$ (same as revenue)

$$= \frac{406.1}{6336.9} \times 100\%$$

$$= 6.41\%$$

For 2009,

$$\text{Profit Margin} = \frac{\text{Net Income}}{\text{Net Sales}}$$

$$= \frac{375.4}{5790.4} \times 100\%$$

$$= 6.48\%$$

(d) For 2010,

$$\boxed{\text{Return on Assets} = \frac{\text{Net Income}}{\text{Avg. Assets}}}$$

$$= \frac{406.1}{\frac{3885.8 + 3708.1}{2}} \times 100\%$$

$$= 10.7\%$$

For 2009,

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Avg. Assets}}$$

$$= \frac{375.4}{\frac{3708.1 + 3349.9}{2}} \times 100\%$$

$$= 10.64\%$$

(e) For 2010,

$$\text{Return on common stockholder's equity} = \frac{\text{Net Income}}{\text{Avg. Common Stock Holder's Equity}}$$

$$= \frac{406.1}{\frac{1708.6 + 1749}{2}} \times 100\%$$

$$= 23\%$$

For 2009,

$$\text{Return on Common Stockholder's Equity} = \frac{\text{Net Income}}{\text{Avg. Common Stockholder's Equity}}$$

$$= \frac{375.4}{\frac{\cancel{1749}\ 1749 + 1795.9}{2}} \times 100\%$$

$$= 21\%$$

For 2010,

(f) $\text{Debt to Total Assets} = \frac{\text{Total Debt}}{\text{Total Assets}}$ → (Liabilities)

$$= \frac{1497.7 + 679.5}{3885.8} \times 100\%$$

$$= 56\%$$

For 2009,

$$\text{Debt to Total Assets} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

$$= \frac{1322 + 637.1}{3708.1} \times 100\%$$

$$= 53\%$$

BE-18.3

Horizontal Analysis

	2011	2010	Increase/Decrease	
			Amount	Percent
	$	$		
Accounts Receivable	520,000	400,000	120,000	30%
Inventory	840,000	600,000	240,000	40%
Total Assets	3000,000	2500,000	500,000	20%

→ Amount = ~~Ne~~ Current − Prev

→ Percent = $\frac{\text{Amount}}{\text{Prev}} \times 100\%$

Vertical Analysis

	2011		2010	
	Amount	Percent	Amount	Percent
Accounts Receivable	520,000	17.33%	400,000	16%
Inventory	840,000	28.7%	600,000	24%
Total Assets	3,000,000	100%	2,500,000	100%

Acc Receiv = $\frac{\text{Acc Receiv.}}{\text{Total Assets}}$

H.W.

[Do It] · (18-2)

E (18-3)

E (18-11)

[DO IT]

18-2 (a) For 2010,

$$\text{current ratio} = \frac{\text{current assets}}{\text{current liabilities}}$$

$$= \frac{1380}{900}$$

$$= 1.53 : 1$$

For 2009, $\text{current ratio} = \frac{\text{current assets}}{\text{current liabilities}}$

$$= \frac{1310}{790}$$

$$= 1.66 : 1$$

For 2010,

(b) $\text{Inventory Turnover} = \frac{\text{cost of goods sold}}{\text{average inventory}}$

$$= \frac{970}{\frac{460+390}{2}}$$

$$= 2.28 : 1$$

For 2009,

$\text{Inventory Turnover} = \frac{\text{cost of goods sold}}{\text{average inventory}}$

$$= \frac{890}{\frac{390+340}{2}}$$

$$= 2.44 : 1$$

(c) For 2010, $\text{profit margin ratio} = \frac{\text{Net Income}}{\text{Net Sales}}$

$$= \frac{252}{3800}$$

$$= 6.63\%$$

For 2009, profit-margin ratio $= \frac{\text{Net Income}}{\text{Net Sales}}$

$= \frac{88}{3460}$

$= 2.54\%$

For 2010,

(d) Return on Assets $= \frac{\text{Net Income}}{\text{Average Assets}}$

$= \frac{252}{\frac{2340+2210}{2}}$

$= 11.08\%$

For 2009,

return on assets $= \frac{\text{net income}}{\text{avg. assets}}$

$= \frac{88}{\frac{2210+1900}{2}}$

$= 4.28\%$

For 2010,

(e) Return on common stockholder's equity $= \frac{\text{net income}}{\text{avg. stockholder's equity}}$

$= \frac{252}{\frac{1030+1040}{2}}$

$= 24.35\%$

For 2009, return on common stockholder's equity $= \frac{\text{net income}}{\text{avg. stockholder's equity}}$

$= \frac{88}{\frac{1040+900}{2}}$

$= 9.07\%$

(f) For 2010, debt to total assets ratio = $\frac{\text{Total Debt}}{\text{Total Assets}}$

$= \frac{900+410}{2340}$

$= 55.98\%$

For 2009, debt to total assets ratio = $\frac{\text{total debt}}{\text{total assets}}$

$= \frac{790+380}{2210}$

$= 52.94\%$

For 2010,

(g) Times interest earned

$= \frac{\text{Income before interest expense and income tax}}{\text{Interest expense}}$

$= \frac{252+168+10}{10}$

$= 43:1$

For 2009,

times interest earned $= \frac{\text{income before interest expense and income tax}}{\text{interest expense}}$

$= \frac{88+132+20}{20}$

$= 12:1$

E

18-3

Horizontal Analysis

	2011	2010	Increase/Decrease	
			Amount	Percent
	$	$		
Assets				
Current Assets	74,000	80,000	(6,000)	(7.5%)
Property, plant and equipment	99,000	90,000	9000	10%
Intangibles	27,000	40,000	(13,000)	(32.5%)
Total Assets	200,000	210,000	(10,000)	(4.76%)
Liabilities and Stockholder's Equity				
Current liabilities	42,000	48,000	(6000)	(12.5%)
Long-term liabilities	143,000	150,000	(7000)	(4.67%)
Stockholder's Equity	15,000	12,000	3000	25%
Total liabilities and stockholder's equity	200,000	210,000	(10,000)	(4.76%)

Vertical Analysis

	2011		2010	
	Amount	Percent	Amount	Percent
	$	$		
Assets				
Current Assets	74,000	37%	80,000	38.1%
Property, plant, equipment	99,000	49.5%	90,000	42.86%
Intangibles	27,000	13.5%	40,000	19.05%
Total Assets	200,000	100%	210,000	100%
Liabilities and stockholder's Equity				
Current Liabilities	42,000	21%	48,000	22.86%
Long-term Liabilities	143,000	71.5%	150,000	71.43%
Stockholder's Equity	15,000	7.5%	12,000	5.71%
Total Liabilities and Stockholder's Equity.	200,000	100%	210,000	100%

(18-11) (a) For 2019, current ratio = $\dfrac{\text{current assets}}{\text{current liabilities}}$

$$= \frac{4{,}300 + 21{,}200 + 10{,}000}{12{,}370}$$

$= 2.87:1$

(b) Acid-test ratio = $\dfrac{\text{Cash} + \text{short-term investment} + \text{receivables}}{\text{current liabilities}}$

$$= \frac{4{,}300 + 21{,}200}{12{,}370}$$

$= 2.06:1$

(c) Receivables Turnover = $\dfrac{\text{Net credit sales}}{\text{Avg. net receivables}}$

$$= \frac{100{,}000}{\left(\frac{21{,}200 + 23{,}400}{2}\right)}$$

$= 4.48:1$

(d) Inventory Turnover = $\dfrac{\text{cost of goods sold}}{\text{avg. inventory}}$

$$= \frac{60{,}000}{\frac{10{,}000 + 7{,}000}{2}}$$

$= 7.06:1$

(e) Profit Margin = $\dfrac{\text{net income}}{\text{net sales}}$

$$= \frac{15{,}000}{100{,}000}$$

$= 15\%$

(f) Asset turnover = $\dfrac{\text{Net Sales}}{\text{Avg. Assets}}$

$$= \frac{100{,}000}{\frac{110{,}500 + 120{,}100}{2}}$$

$= 0.87 : 1$

(g) Return on Assets = $\dfrac{\text{Net Income}}{\text{Avg. Assets}}$

$$= \frac{15{,}000}{\frac{110{,}500 + 120{,}100}{2}}$$

$= 13\%$

(h) Return on common stockholder's equity = $\dfrac{\text{Net Income}}{\text{Avg. Common Stockholder's Equity}}$

$$= \frac{15{,}000}{\frac{98{,}130 + 87{,}000}{2}}$$

$= 16\%$

(i) Debt to assets ratio = $\dfrac{\text{Total Debt}}{\text{Total Assets}}$

$$= \frac{12{,}370}{110{,}500}$$

$= 11.2\%$

(for two years write in their way

(i) Current Ratio

Formula	2011	2010
$\frac{\text{current assets}}{\text{current liabilities}}$	$= \frac{1000}{200}$ $= 5:1$	$= \frac{1200}{300}$ $= 4:1$