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(a) For 2010,

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

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

$$= 1.53:1$$

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

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

$$= 1.66:1$$

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

$$= \frac{570}{\frac{460+390}{2}}$$

$$= 2.28:1$$

For 2009,

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

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

$$= 2.44:1$$

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

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

$$= 6.63\%$$

$$\begin{aligned}\text{For 2009, profit-margin ratio} &= \frac{\text{Net Income}}{\text{Net Sales}} \\ &= \frac{88}{3460}\end{aligned}$$

For 2010,

$$\text{(d) Return on Assets} = \frac{\text{Net Income}}{\text{Average Assets}} = 2.54\%$$

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

$$= 11.08\%$$

For 2009,

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

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

For 2010,

$$= 4.28\%$$

(e) Return on common

$$\text{stockholders' equity} = \frac{\text{net income}}{\text{avg. stockholders' equity}}$$

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

$$= 24.35\%$$

For 2009, return on common

$$\text{stockholders' equity} = \frac{\text{net income}}{\text{avg. stockholders' equity}}$$

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

$$= 9.07\%$$

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

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

$$= 55.98\%$$

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

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

For 2010,

$$= 52.94\%$$

(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,

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

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

$$= 12:1$$

Horizontal Analysis

	2011	2010	Increase/Decrease	
			Amount	Percent
<u>Assets</u>	\$	\$		
Current Assets	74,000	80,000	(6,000)	(7.5%)
Property, plant and equipment	99,000	90,000	9,000	10%
Intangibles	27,000	40,000	(13,000)	(32.5%)
Total Assets	200,000	210,000	(10,000)	(4.76%)
<u>Liabilities and Stockholder's Equity</u>				
Current liabilities	42,000	48,000	(6,000)	(12.5%)
Long-term liabilities	143,000	150,000	(7,000)	(4.67%)
Stockholder's Equity	15,000	12,000	3,000	25%
Total liabilities and stockholder's equity	200,000	210,000	(10,000)	(4.76%)

Vertical Analysis

	2011		2010	
	Amount	Percent	Amount	Percent
	\$	\$		
<u>Assets</u>				
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%
<u>Liabilities and stockholder's Equity</u>				
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 = $\frac{\text{current assets}}{\text{current liabilities}}$

$$= \frac{4,300 + 2,200 + 10,000}{12,370}$$
$$= 2.87:1$$

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

$$= \frac{4,300 + 21,200}{12,370}$$
$$= 2.06:1$$

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

$$= \frac{100,000}{\left(\frac{21,200 + 23,400}{2}\right)}$$
$$= 4.48:1$$

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

$$= \frac{60,000}{\frac{10,000 + 7,000}{2}}$$
$$= 7.06:1$$

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

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

$$\begin{aligned} \text{(f) Asset turnover} &= \frac{\text{Net Sales}}{\text{Avg. Assets}} \\ &= \frac{100,000}{\frac{110,500 + 120,100}{2}} \end{aligned}$$

$$= 0.87 : 1$$

$$\begin{aligned} \text{(g) Return on Assets} &= \frac{\text{Net Income}}{\text{Avg. Assets}} \\ &= \frac{15,000}{\frac{110,500 + 120,100}{2}} \end{aligned}$$

$$= 13\%$$

$$\begin{aligned} \text{(h) Return on common stockholder's equity} &= \frac{\text{Net Income}}{\text{Avg. Common Stockholder's Equity}} \\ &= \frac{15,000}{\frac{98,130 + 89,000}{2}} \end{aligned}$$

$$= 16\%$$

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

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

$$= 11.2\%$$