

Problem 12-20 (20 minutes)

1. Operating assets do not include investments in other companies or in undeveloped land.

	<i>Ending Balances</i>	<i>Beginning Balances</i>
Cash.....	\$ 120,000	\$ 140,000
Accounts receivable	530,000	450,000
Inventory	380,000	320,000
Plant and equipment (net).....	<u>620,000</u>	<u>680,000</u>
Total operating assets	<u>\$1,650,000</u>	<u>\$1,590,000</u>

$$\text{Average operating assets} = \frac{\$1,650,000 + \$1,590,000}{2} = \$1,620,000$$

$$\text{Margin} = \frac{\text{Net operating income}}{\text{Sales}}$$

$$= \frac{\$405,000}{\$4,050,000} = 10\%$$

$$\text{Turnover} = \frac{\text{Sales}}{\text{Average operating assets}}$$

$$= \frac{\$4,050,000}{\$1,620,000} = 2.5$$

$$\text{ROI} = \text{Margin} \times \text{Turnover}$$

$$= 10\% \times 2.5 = 25\%$$

2. Net operating income.....	\$405,000
Minimum required return (15% × \$1,620,000)	<u>243,000</u>
Residual income	<u>\$162,000</u>