

**EXERCISE 11-1** Compute the Return on Investment (ROI) [LO1]

Tundra Services Company, a division of a major oil company, provides various services to the operators of the North Slope oil field in Alaska. Data concerning the most recent year appear below:

Sales	\$18,000,000
Net operating income	\$5,400,000
Average operating assets	\$36,000,000

Required:

1. Compute the margin for Tundra Services Company.
2. Compute the turnover for Tundra Services Company.
3. Compute the return on investment (ROI) for Tundra Services Company.

**EXERCISE 11-2** Residual Income [LO2]

Midlands Design Ltd. of Manchester, England, is a company specializing in providing design services to residential developers. Last year the company had net operating income of £400,000 on sales of £2,000,000. The company's average operating assets for the year were £2,200,000 and its minimum required rate of return was 16%. (The currency in the United Kingdom is the pound, denoted by £.)

Required:

Compute the company's residual income for the year.

**EXERCISE 11-3** Measures of Internal Business Process Performance [LO3]

Lipex, Ltd., of Birmingham, England, is interested in cutting the amount of time between when a customer places an order and when the order is completed. For the first quarter of the year, the following data were reported:

Inspection time	0.5 days
Process time	2.8 days
Wait time	16.0 days
Queue time	4.0 days
Move time	0.7 days

Required:

1. Compute the throughput time.
2. Compute the manufacturing cycle efficiency (MCE) for the quarter.
3. What percentage of the throughput time was spent in non-value-added activities?
4. Compute the delivery cycle time.
5. If by using Lean Production all queue time can be eliminated in production, what will be the new MCE?

**PROBLEM 11-14 Return on Investment (ROI) and Residual Income [LO1, LO2]**

"I know headquarters wants us to add that new product line," said Fred Halloway, manager of Kirsir Products' East Division. "But I want to see the numbers before I make a move. Our division's return on investment (ROI) has led the company for three years, and I don't want any letdown."

Kirsir Products is a decentralized wholesaler with four autonomous divisions. The divisions are evaluated on the basis of ROI, with year-end bonuses given to divisional managers who have the highest ROI. Operating results for the company's East Division for last year are given below:

Sales	\$21,000,000
Variable expenses	13,400,000
Contribution margin	7,600,000
Fixed expenses	5,920,000
Net operating income	\$ 1,680,000
Divisional operating assets	\$ 5,250,000

The company had an overall ROI of 18% last year (considering all divisions). The company's East Division has an opportunity to add a new product line that would require an investment of \$3,000,000. The cost and revenue characteristics of the new product line per year would be as follows:

Sales	\$9,000,000
Variable expenses	65% of sales
Fixed expenses	\$2,520,000

**Required:**

1. Compute the East Division's ROI for last year; also compute the ROI as it would appear if the new product line is added.
2. If you were in Fred Halloway's position, would you accept or reject the new product line? Explain.
3. Why do you suppose headquarters is anxious for the East Division to add the new product line?
4. Suppose that the company's minimum required rate of return on operating assets is 15% and that performance is evaluated using residual income.
  - a. Compute the East Division's residual income for last year; also compute the residual income as it would appear if the new product line is added.
  - b. Under these circumstances, if you were in Fred Halloway's position would you accept or reject the new product line? Explain.