

PROBLEM 7-27 Utilization of a Constrained Resource [LO 7-5, LO 7-6]

The Brandilyn Toy Company manufactures a line of dolls and a doll dress sewing kit. Demand for the dolls is increasing, and management requests assistance from you in determining the best sales and production mix for the coming year. The company has provided the following data:

Product	Demand Next Year Unit	Selling Price Per Unit	Direct Materials	Direct Labor
Marcy	26,000	\$35.00	\$3.50	\$4.80
Tina	42,000	\$24.00	\$2.30	\$3.00
Cari	40,000	\$22.00	\$4.50	\$8.40
Lenny	46,000	\$18.00	\$3.10	\$6.00
Sewing kit	450,000	\$14.00	\$1.50	\$2.40

The following additional information is available:

- The company's plant has a capacity of 150,000 direct labor-hours per year on a single-shift basis. The company's present employees and equipment can produce all five products.
- The direct labor rate of \$12.00 per hour is expected to remain unchanged during the coming year.
- Fixed costs total \$356,000 per year. Variable overhead costs are \$4.00 per direct labor-hour.
- All of the company's nonmanufacturing costs are fixed.
- The company's finished goods inventory is negligible and can be ignored.

Required:

- Determine the contribution margin per direct labor-hour expended on each product.
- Prepare a schedule showing the total direct labor-hours that will be required to produce the units estimated to be sold during the coming year.
- Examine the data you have computed in (1) and (2) above. How would you allocate the 150,000 direct labor-hours of capacity to Brandilyn Toy Company's various products?
- What is the highest price, in terms of a rate per hour, that Brandilyn Toy Company should be willing to pay for additional capacity (that is, for added direct labor time)?
- Identify ways in which the company might be able to obtain additional output so that it would not have to leave some demand for its products unsatisfied.

(CMA, adapted)