

[48 minutes]

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The Duke corporation bottles and sells various vegetable oils and preparations. It recently acquired a bottling plant and has been operating it as a separate Bottle division within Duke. So far the Bottle division has been selling all its output to the external market directly. One of the other operating divisions of the company is the Safflower oil division which uses bottles similar to the ones made by the bottle division. The Safflower division has been unprofitable for the last few periods. To develop synergy's, the company is thinking of asking the bottle division to supply the needs of the Safflower division. The data for the two divisions are given below. The units are in dozens of bottles. The Safflower division's variable manufacturing costs include the price paid for bottles which right now is the same as the average selling price of the bottle division. After some analysis, the bottle division agreed that the selling costs per unit will be lower for internal sales.

### Questions

**Q1** Suppose no transfers are made. Compute the profit to the two divisions and the company as a whole.

**Q2** Suppose all the bottles needed by the Safflower division are supplied by the bottle division. What is the minimum transfer price that will be acceptable to the bottle division. At this minimum transfer price what are the profits for the two divisions and the company as a whole? Compute the minimum transfer price using the general guideline: minimum transfer price equals outlay costs plus opportunity costs. Note that if transfers are made, then the external market sales of the bottle division have to be reduced as the capacity is limited.

**Q3** As a consultant, after some analysis you found that 20% of the bottle division's current output was exported. The export price was \$2.80 per unit. Suppose the Bottle division gets out of the export market and caters only to the domestic market. What is the minimum transfer price that will be acceptable to the bottle division and what will the operating income to the two divisions and to the company as a whole. Compute the minimum transfer price using the general guideline: minimum transfer price equals outlay costs plus opportunity costs. Compute the domestic selling price of the bottles first.

<b>Table</b>	<b>Bottle division</b>	<b>Safflower division</b>
Capacity (Units)	320,000	80,000
Current sales (Units)	300,000	80,000
Selling price (average) per unit	\$3.00	\$12.00
Variable manufacturing costs per unit	\$1.80	\$9.00
Variable selling costs per unit for external marke	\$0.40	\$2.00
Variable selling costs per unit if sold internally	\$0.20	
Fixed costs	\$100,000	\$116,000

