

Group Work, Sect 3.1

(From HL8e)

Form groups, and try to formulate a mathematical model that can be used to answer the question below.

The Wyndor Glass Company produces high quality glass products. It has three plants. Aluminum frames and hardware are made in Plant 1, wood frames are made in Plant 2, and Plant 3 produces the glass and assembles the products.

Management has decided to revamp the company's product line, discontinuing old merchandise to launch two new products:

Product 1: An 8-foot glass door with aluminum framing.

Product 2: A 4×6 foot double hung wood framed window.

Product 1 requires some of the production capacity in Plants 1 and 3, but none from Plant 2. Product 2 needs only Plants 2 and 3. The marketing division has concluded that the company could sell as much of either product as could be produced by these plants. However, because both products would be competing for the same capacity in Plant 3, it is not clear which mix of the two products would be most profitable. An OR team had been formed to study this question- Assume that each product is produced in batches of 20.

Here is the data they gathered:

Plant	Hours for Prod 1 Per Batch	Hours for Prod 2 Per Batch	Hours Available/Week
1	1	0	4
2	0	2	12
3	3	2	18
Profit per batch	\$3,000	\$5,000	