

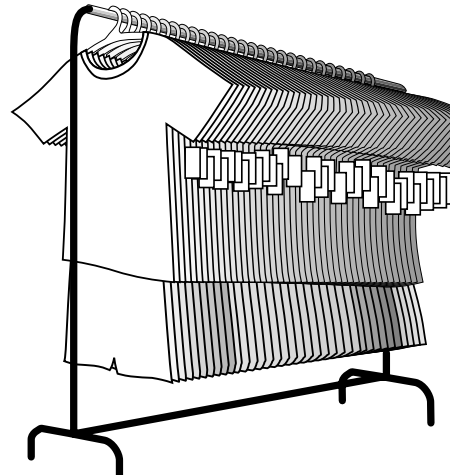
# School-to-Career Activity

(Use with Lesson 8-5)

## Purchasing Assistant

Suppose you are an assistant to the senior buyer at a department store. The buyer has asked you to research the costs of a T-shirt and shorts outfit to be included in the summer collection in the juniors' department. You have contacted several fashion suppliers to collect price information. Ultimately, one supplier will be chosen.

Suppliers	Shorts	T-Shirts
Adini's Worldwide	\$13	\$8
Goldmere Fashion	\$6	\$19
Mennic Clothiers	\$10	\$12



The buyer has instructed that at least 45 T-shirts should be purchased. Management wants to spend no more than \$800 to purchase inventory for this outfit.

For each supplier, make a list of possible combinations of quantities of T-shirts and shorts that could be purchased. Write a brief paragraph recommending a supplier of the T-shirt and shorts combination to the senior buyer. Be sure to explain your reasoning. You can include a graph if you think it would be helpful in your explanation.

**Let  $x$  = the number of shorts purchased, and let  $y$  = the number of T-shirts purchased.**

**The conditions imposed by the buyer and management translate to:**

**Adini's:  $13x + 8y \leq 800$ ,  $y \geq 45$ ,  $x \geq 0$**

**Goldmere:  $6x + 19y \leq 800$ ,  $y \geq 45$ ,  $x \geq 0$**

**Mennic:  $10x + 12y \leq 800$ ,  $y \geq 45$ ,  $x \geq 0$**

**Combinations listed by students should satisfy the inequalities listed above.**

**Recommendations: See students' work. Goldmere can be eliminated from consideration because all of its solutions include negative numbers of shorts.**