

Ralph's New Diet

Ralph Edmund loves steaks and potatoes. Therefore, he has decided to go on a steady diet of only these two foods for all his meals. Ralph realizes that this isn't the healthiest diet, so he wants to make sure that eats the right quantities of the two foods to satisfy some key nutritional requirements. He has obtained the nutritional and cost information (shown in the next slide).

Ralph wishes to determine the number of daily servings of steak and potatoes that will meet these requirements at a minimal cost.

Data

Nutritional and cost information

| Ingredient | Grams of Ingredient per Serving | | Daily Requirement (grams) |
|------------------|---------------------------------|----------|---------------------------|
| | Steak | Potatoes | |
| Carbohydrates | 5 | 15 | ≥ 50 |
| Protein | 20 | 5 | ≥ 40 |
| Fat | 15 | 2 | ≤ 60 |
| Cost per serving | \$4 | \$2 | |