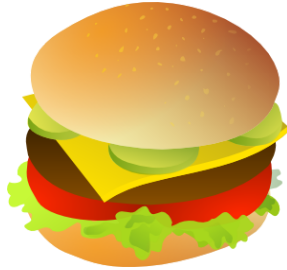


The PuzzlOR

Decision Support Puzzles for Applied Mathematicians

Good Burger



Item	Sodium(mg)	Fat(g)	Calories	Item cost(\$)
Beef Patty	50	17	220	\$0.25
Bun	330	9	260	\$0.15
Cheese	310	6	70	\$0.10
Onions	1	2	10	\$0.09
Pickles	260	0	5	\$0.03
Lettuce	3	0	4	\$0.04
Ketchup	160	0	20	\$0.02
Tomato	3	0	9	\$0.04

As the owner of a fast food restaurant with declining sales, your customers are looking for something new and exciting on the menu. Your market research indicates that they want a burger that is loaded with everything as long as it meets certain health requirements. Money is no object to them.

The ingredient list in the table shows what is available to include on the burger. You must include at least one of each item and no more than five of each item. You must use whole items (for example, no half servings of cheese). The final burger must contain less than 3000 mg of sodium, less than 150 grams of fat, and less than 3000 calories.

To maintain certain taste quality standards you'll need to keep the servings of ketchup and lettuce the same. Also, you'll need to keep the servings of pickles and tomatoes the same.

Question: What is the most expensive burger you can make?