

## Big Burger



Mallie's Sports Grill, a Michigan restaurant, recently made an approximately 350-pound burger in an effort to set the world record for the largest hamburger ever made. It looks delicious. Here are the details:

It takes 20 hours to bake 270 pounds of hamburger and eight hours to cool it in a freezer.

The burger cooks down to a 180-pound patty. You lose about 90 pounds as it becomes grease!

The burger details:

180-pound ground beef patty

Its bun weighs 100 pounds.

Mallie's uses 20 pounds of American cheese,

15 pounds of tomatoes,

15 pounds of onions,

10 pounds of pickles,

10 pounds of bacon

and 10 pounds of lettuce.

1. How much does this burger, with all the toppings weigh?
2. I can't believe you lose so much of the hamburger when it is cooked. In this case the burger started out weighing 270 pounds and ended up weighing 180 pounds after cooking. I have consumed burgers that weighed one pound before cooking. Assuming the weight of the original beef, beef that becomes grease and final burger weight are proportional what part of the original one-pound burger should remain after cooking?
3. If this restaurant wants to have a 400-pound patty after it has been cooked, what weight should they start out with?

4. I am planning to open my own large burger grill. I will create huge burgers that can be cut up and shared by large groups. Help me determine how much I will need of each ingredient and how long I will need to cook a burger. I am assuming the same ratio of pounds of ingredients as the 270-pound burger. I would like to make a 30-pound, a 10-pound burger, and a four-pound burger. I plan to charge \$12 for a four-pound burger (total weight after cooking with all toppings). Use the multi-variable ratio table below to help you find the amount of beef I need to use, weight of the bun, weight of cheese, weight of extra ingredients and cost for each of these burgers sizes.

I have included extra rows in the table. You can use these rows to help you reason your way from the 270-pound burger to get to the quantities of the 30, 10 and 4-pound burgers.

| Original weight of beef in pounds | Final weight of cooked beef in pounds | Weight of bun in pounds | Weight of cheese in pounds | Combined weight of toppings | Total pounds of burger (using final weight of beef, bun, cheese and toppings) | Cost |
|-----------------------------------|---------------------------------------|-------------------------|----------------------------|-----------------------------|---|------|
| 270                               | 180                                   | 100                     | 20                         | 60                          | 360   |      |
|                                   |                                       |                         |                            |                             |   |      |
|                                   |                                       |                         |                            |                             |   |      |
|                                   |                                       |                         |                            |                             |   |      |
|                                   |                                       |                         |                            |                             |   |      |
|                                   |                                       |                         |                            |                             | 30  |      |
|                                   |                                       |                         |                            |                             | 10  |      |
|                                   |                                       |                         |                            |                             | 4   | \$12 |

5. A typical burger that you get at a restaurant weighs about  $\frac{2}{3}$  of a pound and along with some fries typically feeds one person. How many  $\frac{2}{3}$  - pound burgers would you need to eat to eat the equivalent of the 360 pound burger? At that rate how many people should the 360-pound burger feed?
6. If your family bought one 360-pound hamburger from Mallie's Sports Grill and each person ate  $\frac{2}{3}$  - pound servings every evening (and could keep it so that it wouldn't become spoiled), how many days would your family be eating hamburger?