

Logic Problem: The Baker's Dilemma
from Nonprofitwithballs.com

You are the head chef of the Dusty Apron Gluten-Free Organic Bakery. A group of siblings pooled their money together to buy a cake for their parents' 50th wedding anniversary.

To make the cake, here is what you need: 4 eggs, 3 sticks of butter, 2 cups of sugar, 3 cups of flour, 1 vanilla bean, 3 cups of chocolate chips, some electricity,

Here are the costs:

- Eggs, \$1 each;
- flour, \$1 per cup;
- sugar, \$1.5 per cup;
- butter, \$2 per stick;
- vanilla, \$2 per bean;
- chocolate, \$1 per cup;
- electricity for the oven, \$2 per cake

However, the family members each has specific restrictions on how they want their money to be spent.

- John will pay up to \$7, but his money cannot be used for eggs or electricity, and it will pay for no more than 1 stick of butter.
- Bill will pay up to \$6, but his money can be used only for chocolate or vanilla
- Sue will pay up to \$5, but her money can only be used to buy eggs, sugar, or butter, but not the full amount of either
- Anna will contribute up to \$4, which can be used to pay for anything except chocolate
- Steven will contribute up to \$5, and will pay for anything except flour, but only if another person contributes an equal amount

Figure out how much everyone will be paying for what part of the cake

	Egg	Flour	Butter	Vanilla	Chocolate	Sugar	Electricity	Total
John								
Bill								
Sue								
Anna								
Steven								