

# Simplex Initial Feasible Solution

Ben & Jerry's Ice Cream produces three flavors of ice cream, Chocolate Therapy, Vanilla Peanut Butter, and Cherry Garcia. They make \$3, \$5, and \$2 profit from each product, respectively. They are constrained by the amount of local milk purchased, free range chicken eggs purchased, and packaging. Ben & Jerry's can source 22 gallons of milk per week. Each batch of Chocolate requires 1 gallon, each Vanilla requires 2 gallons, and each Cherry Garcia requires 2 gallons. The eggs are from local Free Range farmers and 48 dozen are available each week. Chocolate requires 4 dozen, Cherry Garcia requires 3 dozen, and Vanilla requires 2 dozen. Lastly, the packaging is limited to 15 cases per week. Each product is packaged per case (one case per flavor).

Put the Ben & Jerry's Problem into a Simplex Tableau and then answer the following questions.

What is the Net Evaluation row for the Initial Feasible Solution?

3 5 2 0 0 0

0 0 0 0 0 0

6 6 5 1 1 1

What is the profit for the initial feasible solution?

For the first variable in the Basis, S1, how many units of slack are available?

How can we determine if we have an optimal solution?