

Enrichment 3-2

Secret Recipes

Often, two separate items in a restaurant or a store will be made from essentially the same ingredients. The difference between two items may involve different proportions of the same ingredients.

Solve each problem by writing two equations using two variables.

1. Each order of lasagna or ravioli at Casa Italia weighs 1 lb and consists of meat filling wrapped in pasta. On Tuesday evening, the restaurant served 40 orders of ravioli and 60 orders of lasagna and used 60 lb of meat filling. On Wednesday evening, it sold 60 orders of ravioli and 30 orders of lasagna and used 50 lb of meat filling.
 - a. How much meat filling is used in an order of ravioli?
 - b. How much meat filling is used in an order of lasagna?
2. Foot Friends uses the same type of leather in their men's and women's hiking boots. During one week the company used 290 ft^2 of leather to make 40 pairs of size 10 men's hiking boots and 60 pairs of size 7 women's hiking boots. Another week the company used 275 ft^2 of leather to make 50 pairs of size 10 men's hiking boots and 40 pairs of size 7 women's hiking boots.
 - a. How much leather is used to make 1 pair of size 10 men's hiking boots?
 - b. How much leather is used to make 1 pair of size 7 women's hiking boots?
3. The Fruit Emporium sells small-size frozen yogurt, which consists of two flavors of yogurt and fruit toppings and sells for \$1.40. It also sells regular-size frozen yogurt, made with three flavors of yogurt with fruit toppings for \$1.95.
 - a. How much is each flavor of yogurt with toppings?
 - b. How much is the customer paying for the toppings?
4. A health-food store sells trail mix made with granola and dried fruit. The store buys granola at \$1.00/lb and dried fruit at \$2.00/lb, and it sells these items at a 25% markup. If the trail mix sells for \$1.75/lb, what is the recipe for trail mix?
5. The same health-food store sells two special mixtures of granola and dried fruit. One customer buys 6 lb of Mixture A and 4 lb of Mixture B and pays \$17.00. Another customer reverses the proportions and pays a dollar more.
 - a. What is the cost per lb of Mixture A?
 - b. What is the recipe for Mixture A?
 - c. What is the cost per lb of Mixture B?
 - d. What is the recipe for Mixture B?