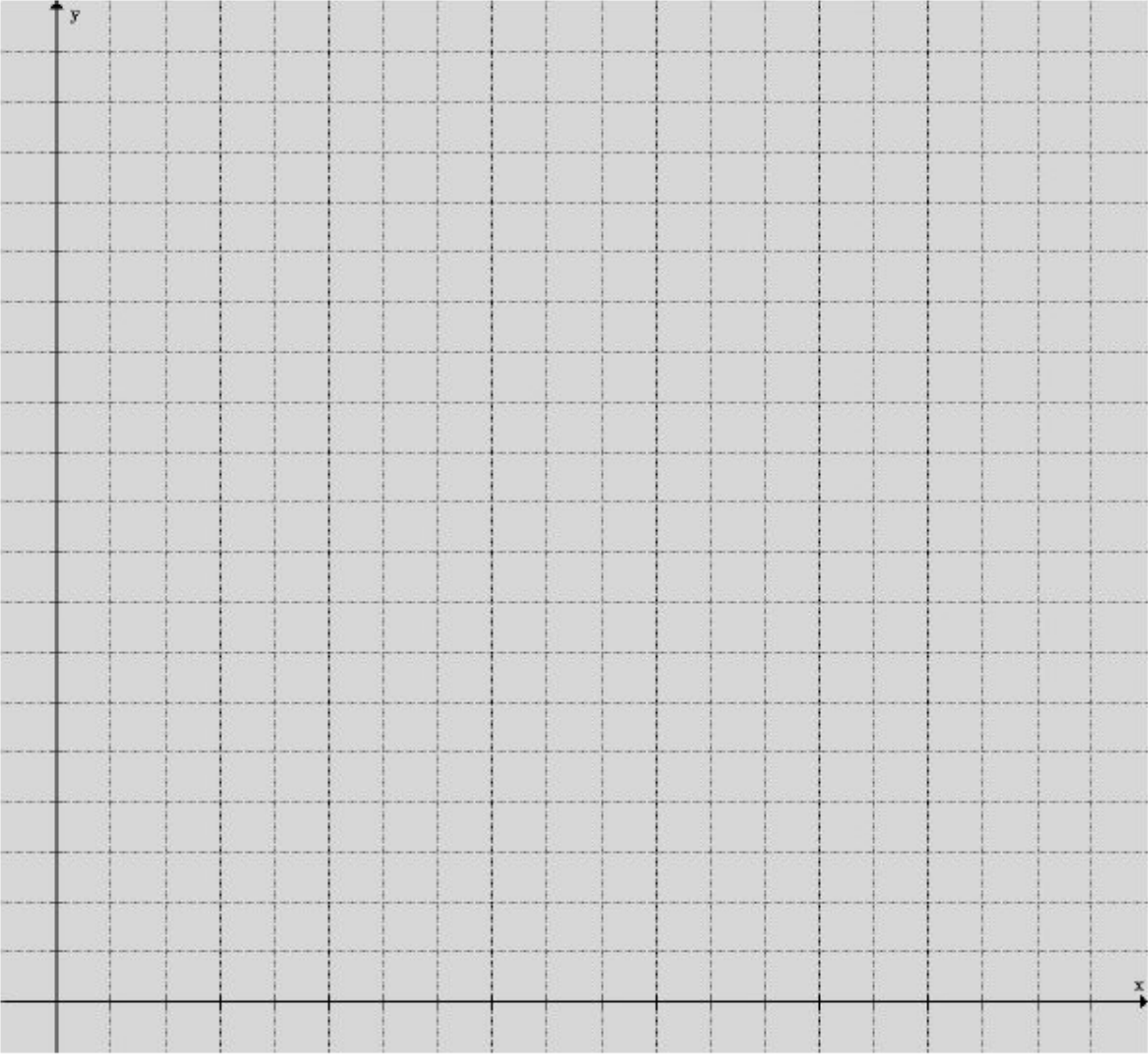
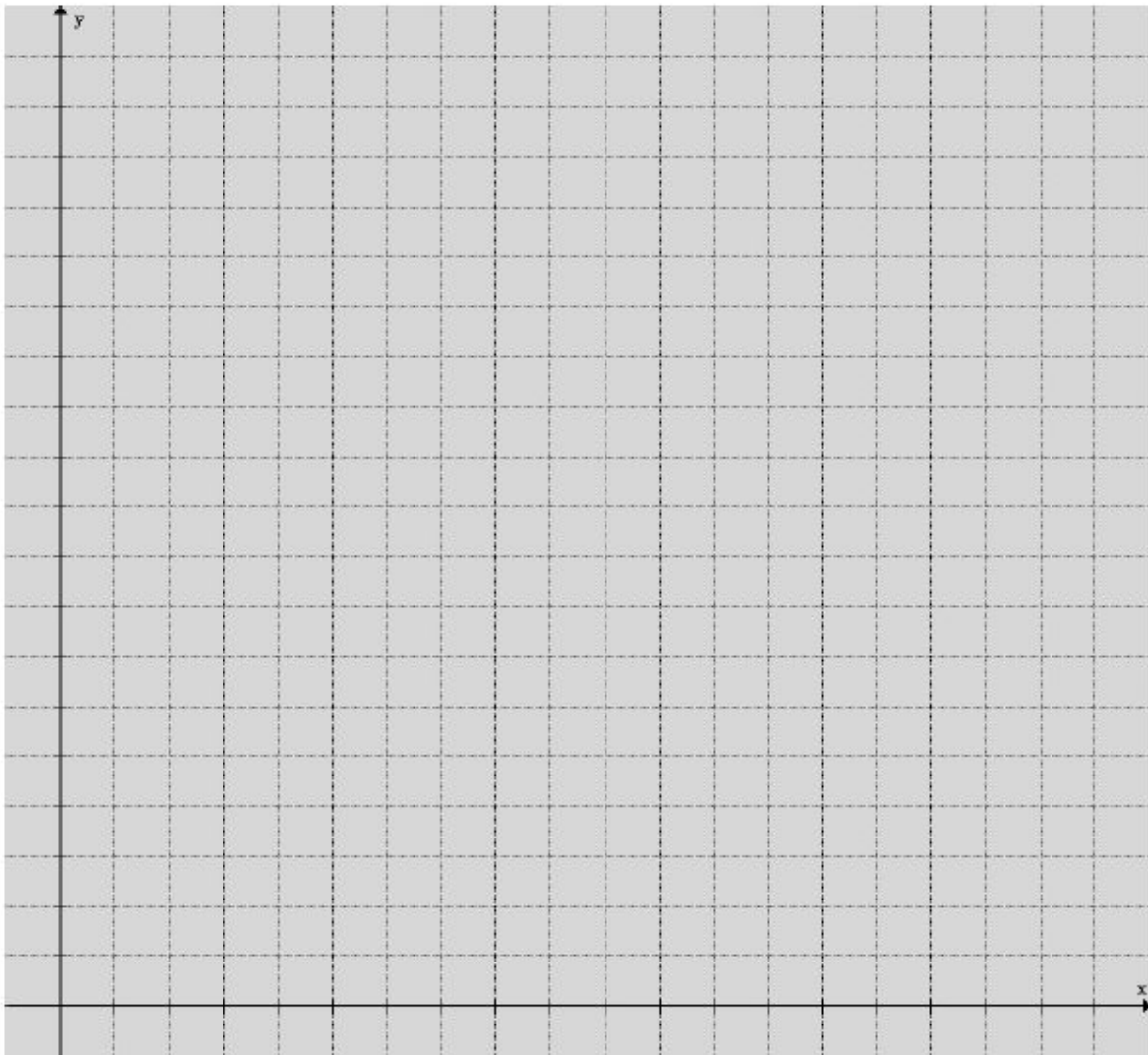


1. A carpenter makes bookcases in two sizes, large and small. It takes 6 hours to make a large bookcase and 2 hours to make a small one. The profit on a large bookcase is \$50, and the profit on a small bookcase is \$20. The carpenter can spend only 24 hours per week making bookcases and must make at least 2 of each size per week.



2. Mr. Lochel is making holiday cookies to sell and the profit will go to help St. Christopher's Hospital. He makes sugar and chocolate chip cookies. Each batch of sugar cookies uses one pound of sugar and two pounds of butter, and each batch of chocolate chip cookies uses one pound of sugar, one pound of butter, and one pound of chocolate chips. He makes \$4.00 profit on each batch of sugar cookies and \$5.00 profit on each batch of chocolate chip cookies. He has 10 pounds of sugar, 15 pounds of butter and 8 pounds of chocolate chips. How many batches of each kind of cookie should he bake to make the maximum profit possible for the hospital?



5. A farming cooperative mixes two brands of cattle feed. Brand X costs \$25 per bag and contains two units of nutritional element A, ~~two~~^{two} units of element B, and two units of element C. Brand Y costs \$20 per and contains one unit of nutritional element A, nine units of element B, and three units of element C. The minimum requirements of nutrients A, B, and C are 12 units, 36 units, and 24 units respectively. Find the number of bags of each brand that should be mixed to produce a mixture having a minimum cost. What is the minimum cost?

