7.RP Cooking with the Whole Cup

Task

Travis was attempting to make muffins to take to a neighbor that had just moved in down the street. The recipe that he was working with required $\frac{3}{4}$ cup of sugar and $\frac{1}{8}$ cup of butter.

a. Travis accidentally put a whole cup of butter in the mix.

i. What is the ratio of sugar to butter in the original recipe? What amount of sugar does Travis need to put into the mix to have the same ratio of sugar to butter that the original recipe calls for?

ii. If Travis wants to keep the ratios the same as they are in the original recipe, how will the amounts of all the other ingredients for this new mixture compare to the amounts for a single batch of muffins?

iii. The original recipe called for $\frac{3}{8}$ cup of blueberries. What is the ratio of blueberries to butter in the recipe? How many cups of blueberries are needed in the new enlarged mixture?

b. This got Travis wondering how he could remedy similar mistakes if he were to dump in a single cup of some of the other ingredients. Assume he wants to keep the ratios the same.

i. How many cups of sugar are needed if a single cup of blueberries is used in the mix?

ii. How many cups of butter are needed if a single cup of sugar is used in the mix?
iii. How many cups of blueberries are needed for each cup of sugar?