



Problem of the Week

Problem E

Sweet!

A bowl contained 320 grams of pure white sugar.

Mixture Y was formed by taking x grams of the white sugar out of the bowl, adding x grams of brown sugar to the bowl, and then mixing uniformly. In Mixture Y, the ratio of the mass of the white sugar to the mass of the brown sugar, expressed in lowest terms, was $w : b$.

Mixture Z is formed by taking x grams of Mixture Y out of the bowl, adding x grams of brown sugar to the bowl, and then mixing uniformly. In Mixture Z, the ratio of the mass of the white sugar to the mass of the brown sugar is $49 : 15$.

What is the value of $x + w + b$?

