



Problem of the Week

Problem B

Let the Leaves Fall Where They May

Masha lives in a house on a forested lot. The trees are lovely, but in the fall there is a lot of raking that needs to be done.

It took him 10 minutes to rake and fill his first bag of leaves, which had a mass of 11 kg. Over the course of the fall, he collected 35 bags of leaves.

- (a) If he assumes that each bag has the same mass as the first bag, what is the expected total mass of all the leaves he collected?
- (b) If he assumes that his time to rake and fill each bag was the same as for the first bag, what is his total expected time to collect all the leaves?

It actually took him 8 hours to do all his raking, and according to the weigh scale at the Environmental Transfer Station, he had 425 kg of leaves in total.

- (c) What was the actual mean (average) mass of each bag of leaves? Round your answer to the nearest tenth of a kg.
- (d) What was the actual mean (average) time that it took for him to rake the leaves for each bag? Round your answer to the nearest minute.
- (e) TO THINK ABOUT: Was predicting his raking workload based on his first bag a good approach?

