



Problem of the Week

Problem B

Doggy Drinking

When a dog takes a drink, he laps up water by pushing his tongue into the water and then pulling it back with some water sticking to it. Some dogs are better at this than others. Chase is a messy drinker, and usually leaves a large puddle on the floor.

- (a) Chase has a mass of 40 kg. Each day he needs to drink 50 mL of water for each kg of body mass. How many litres of water should Chase drink per day?
- (b) If 70% of Chase's body mass is made up of water, how much of Chase's mass is NOT water?
- (c) For every 3.5 mL of water Chase laps up with his tongue, 1.5 mL ends up on the floor. If Chase takes a lap every 5 seconds for one minute, how much water does he successfully drink?
- (d) After an hour, you measure the water on the floor and find that Chase has spilled 45 mL. How much water did he successfully drink?
- (e) How many laps per day will it take Chase to drink the water he needs in one day?

