



DESTROY ALL HUMANS!

Uh-oh. Robots from the future have decided that humans are just too much trouble. They have come up with a brilliant scheme to settle things once and for all. They are going to travel backwards in time in order to switch places! They will send the humans to the future while they live in high style on modern-day earth. It seems kind of bizarre, but that is time travel for you.

Of the roughly 150,000,000 square kilometers of land on earth, only about 43% is habitable. The rest is made up of mountains, deserts, and whatnot and contains very few people. If they just focus on the habitable areas, how much land are the robots going to have to cover in order to capture all of the humans?

That's a lot of land! The robots are feeling lazy and decide to focus just on urban areas. Perhaps they will keep some of the humans in the rural areas around for pets. This strategy will allow their invasion force of 5000 robots to focus on only 450,000 square miles of land. How much land will each robot need to deal with?

The robots have a problem. They don't know where the oceans are! In the future, there is no water. Apparently, the robots got rid of it. There are 510,000,000 square kilometers on the surface of the earth. In the present day, oceans cover about 357,000,000 square kilometers. If the robots appear at random, what is the percentage chance that they will land in the ocean?

Hooray! The robots got lucky and missed the ocean. Unfortunately, they landed in the middle of a lake! Oops. They quickly short out and sink to the bottom. Each of the 5000 robots displaces about 10 cubic meters. The lake has about 1,000,000 cubic meters of water. What will be the increase in volume caused by the robots? What portion of the original volume is this? Write your answer as a decimal.