The Greenhouse Series

Two flat half-silvered mirrors are lined up parallel to each other making a greenhouse. Each mirror reflects half the light that falls on it, and passes half through. The sun shines on the first mirror head-on. Half the sunbeam passes through the first mirror, and half of that passes immediately through the second. Some of the light, however, bounces between the two mirrors before exiting either back through the first mirror or on through the second. Some light repeatedly bounces between the two mirrors.

1. What percentage of the beam eventually is reflected back towards the sun from the first mirror?

2. What percentage of the beam eventually exits out the far end of the second mirror?

3. What percentage of the beam is trapped between the mirrors and never leaves the greenhouse?