1. (a) Each edge $x$ of a square is increasing at the rate of 2 in./sec. At what rate is the area $A$ of the square increasing when each edge is 10 in.? (Give units.)

(b) The area $A$ of a square is increasing at the rate of 8 in.$^2$/sec. At what rate is the edge length $x$ increasing when each edge is 4 in.? (Give units.)

2. (a) The number $B$ of bacteria living on the leftover eggplant in my fridge after $t$ days is given by the function $B(t) = 1000e^{0.1t}$. How fast are they growing after 10 days?

(b) The tastiness $T$ of the eggplant is a function of the number of bacteria living on it: $T = \frac{1}{B}$. How fast is the tastiness decreasing after 10 days?

3. Uncle Ant is shining a laser beam on a wall. If the wall is 10 meters away, and the angle that the beam makes with the ground is increasing at a rate of 0.1 radians/second, how fast is the height $y$ of the spot on the wall increasing?