Product Rule: Context Example 1, "Foreign Tourists"

The number of tourists who traveled to the US from 2005 to 2013 can be modeled by the function $T(t) = .0616t^3 - .6365t^2 + 3.820t + 49.020$ million tourists, $t$ years after 2005.

The percentage (given as a decimal, i.e. an output of .15 means 15%) of all tourists that came from "overseas" (which, strangely, means all except Mexico and Canada) for the same time period can be modeled by the function $P(t) = 21.16 \cdot 1.049^t$ years after 2005.

(a) Find a formula for the number of "overseas tourists to the US" during the given time period 2005-2013.

(b) Find the derivative formula for the function in (a).

(c) Find the number of overseas tourists to the US in the year 2010, and determine how rapidly that number was changing in that year, 2010. Show your work.

(d) At what percentage rate was the number of overseas tourist growing in the year 2010? Answer in a complete and meaningful sentence (with the correct meaning).