1. The parabolic boundary of the region outlined in Figure 1 is the curve \( x = 5 - (y - 3)^2 \). Find the area of the enclosed region. Remember to include all of the labels and work discussed and illustrated in class. Please give serious consideration to the direction in which you want to integrate – most people prefer two integrals to three. 😋
2. Suppose that on a certain day $T(t)$ was the temperature ($^\circ$F) at the center of an hunk of cheese $t$ hours after 4 pm and that $T'(t) = 36e^{-1.2t}$. Find the average value of $T'(t)$ between 7 pm and 9 pm that same day and explain the contextual meaning of the value (including relevant unit). Please round the average value to the nearest thousandth.