A lab rat has a tumor and is treated with an experimental chemotherapy drug. Researchers determine that the rate of change of the size of the tumor in cm³ per day is given by

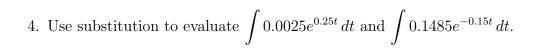
$$r(t) = 0.0025e^{0.25t} - 0.1485e^{-0.15t}.$$

1. Plot r(t) for $0 \le t \le 15$ days. As always be sure to label and include units and a scale on both axes.

2. Using your algebra skills, for what value of t is r(t) = 0? (Laws of exponents will help here.)

3. What is happening with the tumor at the time you found in question 2.?

¹This example is based on problem 6.1.44 in our textbook.



5. Now evaluate
$$\int_0^{10.2107} r(t) dt$$
 (don't forget the units).

6. What does your answer from 5. represent?

