QUIZ 10 - MATH 112   Thursday, April 4
YOUR NAME:_____   George Voutsadakis

Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Suppose that a certain species is becoming gradually extinct at the rate of $-80e^{-0.08t}$, where t is in years since 2015, when anxiety about the species' survival was intensified. Assume that there were an estimated 200 individuals remaining of the species in 2015.

   (a) Find a function $P(t)$ giving the estimated population of the species t years since 2015.

   (b) Find the year in which the species is estimated to become extinct.

2. Compute the area under the curve $f(x) = \sqrt[3]{x}$ over the interval $[1, 8]$.