

Part IV

Answer the question in this part. A correct answer will receive 6 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided to determine your answer. Note that diagrams are not necessarily drawn to scale. A correct numerical answer with no work shown will receive only 1 credit. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [6]

- 37** Seth's parents gave him \$5000 to invest for his 16th birthday. He is considering two investment options. Option A will pay him 4.5% interest compounded annually. Option B will pay him 4.6% compounded quarterly.

Write a function of option A and option B that calculates the value of each account after n years.

Seth plans to use the money after he graduates from college in 6 years. Determine how much more money option B will earn than option A to the nearest cent.

Algebraically determine, to the nearest tenth of a year, how long it would take for option B to double Seth's initial investment.