Math 099 - Assignment 9

Name _____

October 29, 2018

Score _____

Show all work to receive full credit. Supply explanations when necessary. This assignment is worth 5 points.

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1. Give an interval estimate for 37% of 45. Do not use a calculator. Show your work.

2. This problem might give you a sense of what to expect from a given interest rate.

   (a) Determine the simple interest rate that is required to double an investment in 10 years.

   (b) Determine the interest rate compounded daily that is required to double an investment in 10 years. Use guess and check.

   (c) Sally invests $5000 at 6.25% compounded monthly. She wants to have $10,000 in less than 10 years. Is her expectation reasonable?

3. This problem might give you a sense of what to expect from a given interest rate.

   (a) Determine the amount of time required to double an investment at a 7% simple interest rate.

   (b) Determine the amount of time required to double an investment at a 7% interest rate compounded daily. Use guess and check.

   (c) Jalen invests \$5000 at 6.25% compounded monthly. He wants to have \$10,000 in less than 10 years. Is his expectation reasonable?

4. When investing in an annuity, you should expect more than the sum of your contributions and less than the result of compound interest on a one-time investment of the total contributions. For example, suppose \$400 is invested each month for 25 years into an annuity earning 7.45% compounded monthly.

   (a) How much are the total contributions?

   (b) If the total contributions were invested at one time into an account earning compound interest, how much would the account be worth after the 25 years?

   (c) Find the actual future value of the annuity.