MTH 154, Quiz #5, Spring 2021 Name KEY

Instructions: You must show all work to receive full credit for the problems below. You may use Excel where appropriate. Any datasets needed will be posted on Canvas with the quiz file, and you should submit such work along with your quiz. Round answers to two decimal places unless other instructions are given in the problem.

1. A loan is made for 4 years of \$10,000. If the interest on the loan is charged at 4% simple interest, how much interest is paid, and how much money must be paid back at the end of 4 years?

$10{,}000(1 + 4 * 0.04) = \$11{,}600$

2. A loan is made for 4 years of \$10,000. If the interest on the loan is charged at 4% interest compounded annually, how much interest is paid, and how much money must be paid back at the end of 4 years?

$10{,}000(1 + .04)^4 = 11{,}698.59$

3. Use an amortization schedule or one of Excel's built-in financial formulas to determine the amount of money that would be in a savings account if \$50 was deposited each month and earns 2% interest compounded monthly for 10 years.

\$6,647.04

Excel file contains both versions

4. Determine if the sequence of values 10, 15, 22.5, 33.75, 50.625, ... is exponential or not. If it is, determine the common ratio. If it is not, explain why there is no common ratio.

There is a common ratio. It's 1.5