

Linear Systems and STAT Finance Examination Review Part I

Name: _____ Date: _____ Period: _____

$$I = P * r * t \quad A = P * \left(1 + \frac{r}{n}\right)^{n*t} \quad A = P * (e)^{r*t}$$

1. Compare and Contrast Simple Interest and APR,

2. Ert wants to invest \$13,500 at 4.7% interest compounded quarterly for 11.5 years. How much will they have at the end? How much interest will they earn?

3. Determine a rule to calculate the number of years it would take you to create 2.5 times your investment if invested at an interest rate of R% compounded continuously.

4. How much money would you have if you invested \$1 at 77.77% interest for 54 years?

5. Explain the scenario:

```
N=105  
I%=7  
PV=-225000  
PMT=3470.977025  
FV=0  
P/Y=7  
C/Y=7  
PMT: [ ] [ ] BEGIN
```

6. If you decide to buy that thing at Best Buy for \$2,500 and put it on your credit card with an APR of 20% and decide to make only the minimum required monthly payment (\$60) on your balance, how much will that \$2,500-thing actually cost you after a year? How did you determine this?

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7. Find the time it takes to increase your \$11,000 investment to \$43,000 when you are compounding continuously at 7.0% per year, and compare it to the time it would take if you were compounding each week at the same rate.

8. Which is a better deal?

Buying a 40,000 car at 7% compounded continuously for 24 months with a \$27,000 down payment, or buying the same car with no down payment at 5% compounded continuously for 48 months? Why would you say such a thing?

9. If Pal wanted to have her initial investment of \$444 to grow to \$35,000 by making semiannual payments into an account that compounded semiannually at a rate of 5.39 percent over 13 years, what would her semiannual contribution need to be?

10. After Mert made weekly deposits of \$250 into an account that compounded weekly at the rate of 7.2% over 22 years, he had an investment of approximately \$750,000. How much was his initial investment?

11. Gertly need to start saving so he puts \$222.22 in an account that pays 11.1% interest compounded monthly for 11 years. He wants to get as much money as he can, so he also deposits the money he normally spends each month on movies, each month. How much do you think he deposits each month and based on that, what will his balance be after the 11 years?