**Math 132 Practice Test (for Exam #2: Simple and Compound Interest, Annuities)**

1. (3 pts)

Find the simple interest on a loan of $13,000 at 8.7% interest for 10 months

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Give your answer to the nearest cent

2. (3 pts)

You deposit $500 in an account earning 7% interest compounded annually. How much will you have in the account in 20 years?

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3. (3 pts)

You deposit $4000 in an account earning 8% interest compounded monthly. How much will you have in the account in 15 years?

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4. (3 pts)

How much would you need to deposit in an account now in order to have $4000 in the account in 10 years? Assume the account earns 5% interest compounded monthly.

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5. (3 pts)

Find the time required for an investment of 5,000 dollars to grow to 9,000 dollars at an interest rate of 5% per year, compounded monthly. Give your answer accurate to 2 decimal places.

years.

6. (3 pts)

Find the simple interest owed if $920 is borrowed at 8% for 6 years.

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7. (3 pts)

How much should you invest at 3.9% simple interest in order to earn $80 interest in 17 months?

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8. (3 pts)

What is the simple interest rate on a $1550 investment paying $658.75 interest in 8.5 years?

% *(round to the nearest tenth of a percent)*

9. (3 pts)

Suppose you have $2250 in your savings account at the end of a certain period of time. You invested $1600 at a 5.35% simple annual interest rate. How long, in years, was your money invested?

*State your result to the nearest hundredth of a year.*

10. (3 pts)

Find the simple interest paid on a $930 investment at 6.3% annual interest for 120 days. *Use the Bankers' Rule*

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11. (3 pts)

Ahanu borrowed $1900 on a 4.5% **discounted loan** for a period of 17 months.

What is the loan's discount? [Hint: Discount = $P \times r \times t \div 12$ ($t$ *in months*)]

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What is the net amount of money Ahanu ***receives***? (This is the principal).

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What is the loan's actual rate of interest? *(to the nearest hundredth of a percent)*

_____ %

12. (3 pts)

Francine currently has $45,000 in her 401k account at work and plans to contribute $6,000 each year for the next 20 years. How much will she have in the account in 20 years, if the account averages a 7% annual return?

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13. (3 pts)

Suppose you invest $140 a month for 6 years into an account earning 10% compounded monthly. After 6 years, you leave the money, without making additional deposits, in the account for another 21 years. How much will you have in the end?

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Suppose instead you didn't invest anything for the first 6 years, then deposited $140 a month for 21 years into an account earning 10% compounded monthly. How much will you have in the end?

$

14. (3 pts)

You want to be able to withdraw $45,000 from your account each year for 25 years after you retire.

You expect to retire in 20 years.

If your account earns 6% interest, how much will you need to deposit each year until retirement to achieve your retirement goals?

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15. (3 pts)

Suppose you invest $120 a month for 6 years into an account earning 9% compounded monthly. After 6 years, you leave the money, without making additional deposits, in the account for another 24 years. How much will you have in the end?

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16. (3 pts)

Rodney is making monthly contributions of of $440 to his savings account which pays interest at the APR of 7.5%, compounded monthly. Right after Rodney makes his 67th contribution, the bank changes the APR to 9.5% and Rodney makes 39 more $440 contributions. What is Rodney's balance right after his last contribution?
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17. (3 pts)

Sakari and Roscoe plan to send their son to university. To pay for this they will contribute 12 equal yearly payments to an account bearing interest at the APR of 6.7%, compounded annually. Five years after their last contribution, they will begin the first of five, yearly, withdrawals of $31,200 to pay the university's bills. How large must their yearly contributions be?

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**Key – Practice Test**

1. 942.5
2. 1,934.84
3. 13,227.69
4. 2,428.64
5. 11.78
6. 441.6
7. 1,447.96
8. 5
9. 7.59
10. 19.53
11. 121.13 ~ 1,778.88 ~ 4.81
12. 420,108.75
13. 111195.3 ~ 119203.03
14. 15637.94
15. 98064.71
16. 69,617.75
17. $5,305.43

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