Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Peter Sallay Math 1332 Exam II

1. Compute the annual cost of each of the following expenses: $12 a week on lottery tickets; $150 per month on gasoline. Complete the sentence: On an annual basis, the first set of expenses is \_\_\_\_\_\_\_% of the second set of expenses.
2. Elise maintains an average monthly balance on her credit card of about $857. Her credit card company charges 18% annual interest rate, which is billed at the rate of 1.5% per month. How much is she spending on credit card interest per year (rounded to the nearest cent)?
3. Find the net monthly cash flow. (52 weeks in a year)

|  |  |
| --- | --- |
| Income | Expenses |
| Job $600 per week  Student Loan $3000 per semester (Spring and Fall) | Rent $550 per month  Groceries $70 per week  Tuition and fees $1800 per semester |

For #4-14 If you use the financial template in excel write out how you filled in the boxes **and** your final answer , if you use a calculator, write out what you type in the calculator to get the answer **and** your final answer.

1. Suppose that you invest $2200 in an account that earns simple interest at an APR of 5.1%. Determine the accumulated balance after 8 years.
2. Suppose that you invest $1570 in an account that earns interest at an APR of 6.5%, compounded quarterly. Determine the accumulated balance after 20 years.
3. Suppose that you invest $1500 in an account that earns interest at an APR of 3.5%, compounded continuously. Determine the accumulated balance after 8 years.
4. Suppose that you want to have a $75,000 retirement fund after 40 years. How much will you need to deposit now if you can obtain an APR of 6.2%, compounded daily? Assume that no additional deposits are to be made to the account.
5. Your savings account pays an APR of 4.8%, compounded annually. If you deposit $400 at the end of each year for 8 years, what will be the accumulated balance in the account?
6. Suppose you set up a new IRA (individual retirement account) that pays an APR of 7%, compounded monthly. If you contribute $240 per month for 15 years, how much will the IRA contain at the end of that time?
7. Suppose you want your son’s college fund to contain $175,000 after 20 years. If you can get an APR of

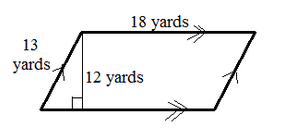
5.9%, compounded monthly, how much should you deposit at the end of each month?

1. Consider a student loan of $15,000 with an APR of 6.5% for 10 years. Find:

a) the monthly payment

b) the total amount paid on the loan

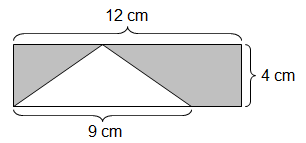
1. Calculate the **monthly** payments for a home mortgage of $165,000 with a fixed APR of 4.2% for 30 years. Calculate the **total** amount paid for the house.
2. Suppose you take out an auto loan for $15,500 over a period of six years at an APR of 7.5%. Determine your monthly payments.
3. Suppose you have a balance of $2400 on your credit card, which charges an APR of 24%. Assume that you charge no additional expenses to the card and you want to pay off the balance in 2 years of monthly payments. What is the total amount of interest you will end up paying?
4. Is it possible for two polygons to have the same *area* but different *perimeter*? Explain with an example.
5. Find the perimeter and area of the following.



Perimter=\_\_\_\_\_\_\_\_\_\_\_\_\_

Area=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Find the *volume* of a regulation blocker dodge ball with ***diameter*** 10 inches.
2. Find the area of the shaded region.



1. Convert 9° 27′54′′into decimal form.

20. A jogger running around a park runs 3 miles east, then turns and runs 1 mile north. To return to the starting point, she then cuts diagonally back across the park. What is her total distance?

Exam II Formula Chart

|  |  |  |  |
| --- | --- | --- | --- |
| **Finance Formulas** | | **Geometry Formulas** | |
| Compound interest paid n times per year |  | circle |  |
| Continuous Compound Interest |  | Square |  |
| Savings plan with Regular Payments |  | Rectangle |  |
| APY |  | Parallelogram |  |
| Compound Annual Growth Rate |  | Triangle |  |
| Total Return |  | Sphere |  |
| Loan Payment |  | Cube |  |
|  |  | Rectangular Prism(box) |  |
|  |  | Right Circular Cylinder |  |

|  |  |
| --- | --- |
| Conversion facts for degree, minute, and seconds |  |
| Pythagorean Theorem |  |