

Notes - HW 16: Taking Control of Your Finances

Module 4: Managing Money and Interest

Chapter 5 Managing Money

Unit A Taking Control of Your Finances

Objectives:

1. Understand budgets, cash flows, spending patterns, worthwhile expenses, etc.
2. Determine if an amount spent is extravagant
3. Find monthly interest payment amounts
4. Prorate expenses and find the monthly expense
5. Find a net monthly cash flow
6. Determine if spending patterns are equal to, above, or below the national averages
7. Determine between two options which is least expensive
8. Determine the value of education

Many of us have **monthly expenses**: credit cards, car payments, student loans, food costs, housing costs, insurance premiums, gas costs, clothing expenses, entertainment expenses, donations to charities, etc. It is important that we each set and follow a budget that applies to our particular lifestyle. In this section you will get a chance to explore various finance examples.

Since money is very important to our lives, it is important that you understand your personal finances. Understanding your personal situation and keeping your finances under control, will help you meet your financial goals and will help you be less stressed and happier!

Example 1

Question: Calvin isn't rich, but he gets by, and he loves sitting down for a latte at the college coffee shop on a busy day. With tax and tip, he usually spends \$5 on his large latte. He gets at least one every day (on average), and about every three days he has a second one. He figures it's not such a big indulgence. Is it?

Solution:

Step 1: Figure out how many latte he orders in a year...

Calvin has at least 365 lattes since he has one every day during the year. The second latte he has every three days means he has about $365/3 = 121$ extra lattes. His total is $365 + 121 = 486$ lattes.

Step 2: Find the cost of 486 lattes...

$486 \times \$5 = \$2,430$ is spent in one year – wow that A LOT of \$\$\$ for lattes! Can you think of ways he can adjust his spending to save some money but still have a good time?

Example 2

Question: Cassidy has recently begun to keep her spending under better control, but she still can't fully pay off her credit card. She's maintaining an average monthly balance of about \$1100, and her card charges a 24% annual interest rate, which is billed at a rate of 2% per month? How much is she spending on credit card interest?

Note: 2% is $1/12$ of the annual interest rate of 24% since $24/12 = 2\%$.

Solution:

Step 1: Her average monthly interest is 2% of the \$1100 average balance: $0.02 \times \$1100 = \22 .

Step 2: If she continues this pattern for the year, she would pay \$22 each month: $12 \times \$22 = \264 . This small amount of interest adds up quick! Can you think of ways she reduce this yearly interest amount?

Example 3

Question: Suppose you are paid \$379.25 for $20\frac{1}{2}$ hours of work. How much would you be paid if you worked 35 hours?

Solution: First find your hourly rate of pay: $\$379.25/20.5 = \18.50

Next find your pay for working 35 hours: $35 \times \$18.50 = \647.50

Example 4

Question: Suppose Joe spends \$21 on lottery tickets every week and \$135 per month on food. On an annual basis, the first set of expenses is _____% of the second set of expenses.

Solution:

Step 1: Calculate the yearly amount spent on lottery tickets: $52 \times \$21 = \$1092/\text{year}$

Step 2: Calculate the yearly amount spent on food: $12 \times \$135 = \$1620/\text{year}$

Step 3: Divide the lottery ticket expense by the food expense = $1092/1620 = 0.6741$

Step 4: Convert 0.6741 to a percent: $0.6741 \times 100\% = 67.41\%$

On an annual basis, the first set of expenses is 67.41% of the second set of expenses.

Example 5

Question: Prorate the given expenses to find the *monthly* cost: Sara pays \$4200 for tuition and fees for each of the two semesters, plus an additional \$200 for textbooks each semester.

Solution:

Step 1: Find the cost for each semester = $\$4200 + \$200 = \$4400/\text{semester}$

Step 2: Find the cost for one year = $2 \times \$4400 = \$8800/\text{year}$

Step 3: Then find the monthly cost = $\$8800/12 = \$733.33/\text{month}$

Example 6

Question: Prorate the given expenses and find the corresponding monthly expense. Larry pays a semiannual premium of \$700 for automobile insurance, a monthly premium of \$155 for health insurance, and an annual premium of \$350 for life insurance.

Solution:

Step 1: Find the yearly cost for the automobile insurance = $2 \times \$700 = \$1400/\text{year}$

Step 2: Find the yearly cost for the health insurance = $12 \times \$155 = \$1860/\text{year}$

Step 3: Remember the life insurance is already given as the yearly cost = $\$350/\text{year}$

Step 4: Find the total yearly cost = $\$1400 + \$1860 + \$350 = \$3610/\text{year}$

Step 5: Then find the monthly cost = $3610/12 = \$300.83/\text{month}$

Example 7

Question: In addition to your monthly expenses, you have the following college expenses that you pay twice a year: \$3500 for your tuition, \$750 in student fees each semester, and \$500 for textbooks each semester. How should you handle these expenses in computing your monthly budget?

Solution:

Step 1: First determine the yearly amount for each expense and the total:

Tuition = $2 \times \$3500 = \$7000/\text{year}$

Student fees = $2 \times \$750 = \$1500/\text{year}$

Textbooks = $2 \times \$500 = \$1000/\text{year}$

Total = $\$7000 + \$1500 + \$1000 = \$9500/\text{year}$

Step 2: Calculate the total monthly expense:

$\$9500/12 = \791.67 or approximately \$792/month

This means your monthly budget also needs to include a plan for approximately \$800 for tuition, student fees, and textbooks.

Example 8

Question: Brianna is creating a budget. The regular expenses she pays for monthly are: rent (\$700), gas (\$120), health insurance (\$140), car insurance (\$75), renters' insurance (\$25), cell phone (\$110), utilities (\$100), groceries (\$300), and entertainment/eating out (\$250). In addition, over the entire year, she spends \$12,000 for college expenses, \$1000 on gifts, \$1500 for vacations, \$800 on clothes, and \$600 for charities. Her income consists of a monthly, after-tax paycheck of about \$1600 and a \$3000 scholarship. Find her total monthly cash flow.

Solution:

Step 1: Find her total monthly income:

$$\text{Scholarship: } \$3000/12 = \$250/\text{month}$$

$$\text{Paycheck: } \$1600/\text{month}$$

$$\text{Total monthly income} = \$250 + \$1600 = \$1850/\text{month}$$

Step 2: Find the total of her regular monthly expenses:

$$\$700 + \$120 + \$140 + \$75 + \$25 + \$110 + \$100 + \$300 + \$250 = \$1820/\text{month}$$

Step 3: Find the monthly expense amount for the annual expenses:

$$\text{Total} = \$12,000 + \$1000 + \$1500 + \$800 + \$600 = \$15,900/\text{year}$$

$$\text{Monthly expense amount} = \$15,900/12 = \$1325/\text{month}$$

Step 4: Find her total monthly expense amount:

$$\$1820 + \$1325 = \$3145$$

Step 5: Calculate her monthly cash flow:

$$\text{Income} - \text{expenses} = \$1850 - \$3145 = -\$1295/\text{month}$$

****She has a negative cash flow!** This means she is spending more money than she is taking in... Can you think of ways to reduce her spending and create a positive cash flow?