Chapter 2 Project

On a Budget

An activity to demonstrate the use of fractions in real life.

Samantha's friend Meghan is always traveling to exotic locations when she goes on vacation, so one day Samantha asked her how she was able to afford it. Meghan told her it was simple. She makes a budget and sets aside a portion of her salary each month for a vacation. Meghan told Samantha that they could meet at her house for dinner on Saturday and she would be glad to show her how to make a budget.

The table below shows the fraction of Meghan's salary that she spends for each category in her budget. Assume that Meghan's salary is $4000 a month. Answer the questions below, reducing any fractional answers to lowest terms.

Meghan's Budget

Category	Fraction	Category	Fraction
Rent	$\frac{1}{4}$	Savings	$\frac{1}{10}$
Utilities	$\frac{1}{20}$	Gas	$\frac{1}{25}$
Phone	$\frac{1}{25}$	Vacation	$\frac{3}{40}$
Car payment	$\frac{1}{10}$	Car Insurance	$\frac{1}{25}$
IRA	$\frac{1}{8}$	Eating Out	$\frac{1}{16}$

1. What fraction of Meghan's salary does she spend on rent, utilities, and her phone?

   a. First, find the LCM of all the denominators for these budget categories.

   b. Write an equivalent fraction for each of these three budget categories using the value found in Part **a.** as the LCD.

   c. Add the equivalent fractions from Part **b.** together to answer the question.

2. Meghan sets aside $\frac{3}{40}$ of her salary each month for her yearly vacation and $\frac{1}{16}$ of her budget for eating out. Which of these two fractions is larger?

3. Meghan saves $\frac{1}{10}$ of her salary and puts $\frac{1}{8}$ of her salary in an IRA for her retirement fund.

   a. Find the sum of these two fractions.

   b. How much of Meghan's salary is budgeted for investment and savings each month?

4. There are three budget categories that are car-related.

   a. Determine the **average** fraction of Meghan's salary that she budgets for car-related expenses.

   b. Determine the **average** amount spent for each car-related expense.

5. Determine the fractional portion of Meghan's salary remaining to spend on miscellaneous expenses.

   a. What is the LCM of all the denominators in the table?

   b. Write an equivalent fraction for each budget category using the value found in Part **a.** as the LCD.

   c. Add the equivalent fractions from Part **b.** together to get the total fractional portion of Meghan's monthly salary that is budgeted for the categories in the table.

   d. What fractional portion of Meghan's monthly salary is not budgeted?

   e. How much of Meghan's monthly salary is unbudgeted?

6. Let's make some changes to Meghan's current budget using the new table below.

Meghan's Budget

Category	Fraction	Category	Fraction
Rent		Savings	
Utilities		Gas	
Phone		Vacation	
Car payment		Car Insurance	
IRA		Eating Out	

a. Double the fractions spent on the first five categories in the original budget and place in the new table above.

b. Halve the fractions spent on the last five budget categories and place in the table.

c. Sum the fractions in the new table to find the total fractional portion budgeted for the new budget plan.

d. Would Meghan be able to afford this new budget on her current salary? In other words, do the new fractions in the new table add up to a fraction less than 1?

e. If the new budget in part **d.** is over budget, what fraction is it over? If the new budget is under budget, what fractional portion is left over?