# Chapter 7

# Personal Budgets

*Making a budget can help you to reach a financial goal, such as a large purchase.*

## 7.1 Preparing to Make a Budget

### NEW SKILLS: WORKING WITH INCOME AND EXPENSES

In this chapter, you will consider what income you might make and what it might cost you to live. Will you have enough money to pay all your expenses? You need to make a **budget**, an estimated plan of income and expenses. To do this, you have to consider:

**budget:** a balanced statement of projected income and expenses

- Your income: Is it regular or does it vary? Variable income is income where the amount changes over time and/or is not received on a regular basis (for example, commissions, tips, or piecework).

**recurring expenses:** expenses that occur on a regular basis

- Your expenses: Which ones are **recurring** and regular (for example, car payments or rent), and which ones vary (for example, buying new clothes)? What are your possible unexpected expenses (for example, an emergency vet bill for a sick pet)?
- Your savings: What do you want to save for?

For more details, see page 302 of *MathWorks 11*.

## Example 1

A hard hat is an essential piece of safety equipment in many jobs.

Janice had the following income and expenses during the past month. Identify the income and expenses. Classify the income as regular or variable, and the expenses as recurring, variable, or unexpected.

| | |
|---|---|
| Paycheque | $500.00 |
| Gas | $34.86 |
| Cell phone bill | $42.89 |
| New boots | $189.54 |
| Paycheque | $500.00 |
| Birthday gift from grandparents | $100.00 |
| Car loan payment | $275.00 |
| New hard hat for work, to replace lost hat | $29.95 |
| Eating out | $25.78 |

### SOLUTION

Separate the entries into two columns, income and expenses.

| JANICE'S MONTHLY INCOME AND EXPENSES | |
|---|---|
| *Income* | *Expenses* |
| Paycheque: $500.00 | Gas: $34.86 |
| Paycheque: $500.00 | Cell phone bill: $42.89 |
| Birthday gift from grandparents: $100.00 | New boots: $189.54 |
| | Car loan payment: $275.00 |
| | New hard hat for work, to replace lost hat: $29.95 |
| | Eating out: $25.78 |

Examine each item under income. The two paycheques look like they are regular income, since they are both for the same amount. The birthday gift is variable income, because it is not received regularly.

Recurring expenses would probably be the car loan payment and the cell phone bill. Gas, new boots, and eating out are probably variable expenses. Buying the new hard hat is an unexpected expense.

Sometimes it is not easy to classify items as regular or variable because it may depend on usage.

## BUILD YOUR SKILLS

1. Classify the following types of income as regular or variable, and explain your reasoning.

| *Item* | *Classification* | *Reason* |
|---|---|---|
| Semi-monthly paycheque | | |
| Birthday gift | | |
| Tips | | |
| Interest from investment | | |
| Tax refund | | |

2. Classify the following expenses as recurring, variable, or unexpected. Explain your reasoning.

| *Item* | *Classification* | *Reason* |
|---|---|---|
| Rent | | |
| New shoes | | |
| Loan payment | | |
| Car repairs | | |
| Groceries | | |
| Meal at restaurant | | |
| Replacing broken cell phone | | |
| Car insurance | | |

3. Classify the following as income or expenses. Identify the income as regular or variable and the expenses as recurring, variable, or unexpected.

| *Item* | *Income* | *Expense* |
|---|---|---|
| Paycheque: $250.98 | | |
| John's birthday: $54.25 | | |
| Commission: $75.00 | | |
| Babysitting: $40.00 | | |
| Paycheque: $123.42 | | |
| Loan payment: $125.00 | | |
| Donation to earthquake relief fund: $25.00 | | |
| Car insurance: $115.32 | | |
| Savings: $50.00 | | |
| Rent: $450.00 | | |
| Cell phone bill: $45.00 | | |
| Meal at restaurant: $56.76 | | |

## Example 2

Carlos has made a list of his income and expenses for one month.

| *Income* | | *Expenses* | |
|---|---|---|---|
| Semi-monthly paycheque | $539.92 | Rent | $445.00 |
| Semi-monthly paycheque | $539.92 | Food | $195.00 |
| | | Entertainment | $79.85 |
| | | Utilities | $45.15 |
| | | Transportation | $75.00 |
| | | Clothing | $72.95 |
| | | Cell phone bill | $47.95 |
| | | Miscellaneous | $25.00 |

a) He plans to put any extra income into a savings account. How much money does he have to put into savings?

b) How much money can Carlos save over the course of one year?

c) What percentage of his income do Carlos's savings represent?

d) Carlos hopes to buy a new computer in one year. He expects it will cost $1500.00. How much more would he need to save per month to be able to afford it? Suggest one way he could do this.

Computers get faster and more efficient every year. How often do you think you'll need to buy one?

**SOLUTION**

a) Calculate Carlos's total income.

$539.92 + $539.92 = $1079.84

Calculate his total expenses.

$445.00 + $195.00 + $79.85 + $45.15 + $75.00 + $72.95 + $47.95 + $25.00 = $985.90

Subtract expenses from income to calculate how much he could put into savings.

$1079.84 – $985.90 = $93.94

Carlos can put $93.94 into a savings account.

b) Calculate his savings for one year.

$93.94 × 12 = $1127.28

After one year, Carlos will have $1127.28 saved.

c) In one month, Carlos earns $1079.84 and saves $93.94. Calculate what percentage his savings are of his income.

$$\frac{\$93.94}{\$1079.84} \times 100 \approx 8.7\%$$

Carlos saves about 9% of his income.

d) The computer will cost $1500.00. Divide by 12 to find how much Carlos would have to save per month.

$1500.00 ÷ 12 = $125.00

Calculate how much more this is than what Carlos is currently saving.

$125.00 – $93.94 = $31.06

To be able to afford the computer, Carlos will have to put $31.06 more into savings each month.

Suggestions for how Carlos could save extra money:

- Food and entertainment are variable expenses. He could spend less on them per month and put more money into savings.
- Clothing is a variable expense, so Carlos will probably not spend the same amount each month. He can save some of this money for the computer.

## BUILD YOUR SKILLS

4. Tonia has made a list of her income and expenses for one month. She will put any extra income into savings. If she has an unexpected car repair that costs $243.25, how much will she save this month?

| *Income* | | *Expenses* | |
|---|---|---|---|
| Paycheque (week 1) | $450.00 | Rent | $775.00 |
| Paycheque (week 2) | $450.00 | Groceries | $225.39 |
| Paycheque (week 3) | $450.00 | Renter's insurance | $74.00 |
| Paycheque (week 4) | $450.00 | Clothing | $66.79 |
| | | Entertainment | $47.59 |
| | | Utilities | $84.00 |
| | | Transportation | $250.00 |

5. Franklin earns $2456.85 each month. He expects the following expenses this month:

| *Expenses* | |
|---|---|
| Mortgage payment | $1250.46 |
| Groceries | $250.00 |
| Insurance | $135.76 |
| Entertainment | $50.00 |
| Utilities/phone | $245.00 |
| Transportation | $250.00 |
| Miscellaneous | $100.00 |

If he saves the rest, how much can he save in a year? What percentage of his income does this represent?

6. Marion has the following monthly income and expenses. She puts any extra income into savings.

| *Income* | | *Expenses* | |
|---|---|---|---|
| Semi-monthly pay | $1037.72 | Rent | $825.00 |
| Semi-monthly pay | $1037.72 | Utilities (phone, gas, hydro) | $110.00 |
| | | Entertainment | $100.00 |
| | | Loan payment | $150.00 |
| | | Renter's insurance | $25.00 |
| | | Transportation | $225.00 |
| | | Groceries | $275.00 |
| | | Clothing | $100.00 |
| | | Charity | $25.00 |
| | | Miscellaneous | $50.00 |

After three months, Marion wants to buy a new TV that costs $1399.99. Will she have enough saved to pay cash?

## Example 3

A car is a big purchase; plan wisely for it.

Rachelle's budgeted income and expenses are shown below. She wants to replace her car in one year. She expects that she will be able to sell her old car for $1500.00. Assuming she saves any extra income, how much money will she have for a new car?

| *Income* | | *Expenses* | |
|---|---|---|---|
| Regular pay | $1100.00 | Rent | $500.00 |
| Tutoring | $300.00 | Utilities | $150.00 |
| Babysitting | $250.00 | Car Insurance | $125.00 |
| | | Gas | $80.00 |
| | | Clothing | $100.00 |
| | | Groceries | $175.00 |
| | | Entertainment | $50.00 |
| | | Miscellaneous | $25.00 |

**SOLUTION**

Add to find her monthly expenses.

$500.00 + $150.00 + $125.00 + $80.00 + $100.00 + $175.00 + $50.00 + $25.00 = $1205.00

Add to find her monthly income.

$1100.00 + $300.00 + $250.00 = $1650.00

Subtract her expenses from her income.

$1650.00 – $1205.00 = $445.00

She should be able to save $445.00 per month.

Calculate her total savings after one year.

$445.00 × 12 = $5340.00

Add the amount she expects to earn from the sale of her car.

$5340.00 + $1500.00 = $6840.00

Rachelle will have $6840.00 saved for her new car.

## BUILD YOUR SKILLS

7. Aidan earns $1588.25 per month and has about $1275.00 in expenses per month. If he saves the rest, how many months will it take him to save for a new computer if the one he wants costs $1798.98? (Ignore taxes.)

8. Karen's monthly income is $2379.00 and her monthly expenses are as follows.

| *Expenses* | |
|---|---|
| Rent | $775.00 |
| Utilities | $175.00 |
| Car payment | $342.00 |
| Car insurance | $123.00 |
| Renter's insurance | $42.00 |
| Groceries | $225.00 |
| Gas | $90.00 |
| Entertainment | $75.00 |
| Miscellaneous | $50.00 |

In January, Karen starts saving for a trip in July that will cost her $3000.00. Will she have enough saved by the beginning of July? How much more/less will she have in savings?

## PRACTISE YOUR NEW SKILLS

1. Wong has recorded his income and expenses below. Identify the income and expenses. Classify the income as regular or variable, and the expenses as recurring or variable.

| *Item* | *Income* | *Expense* |
|---|---|---|
| Paycheque | | |
| Rent | | |
| Car insurance | | |
| Gas | | |
| Clothing | | |
| Cell phone bill | | |
| Mother's Day gift for mom | | |
| Groceries | | |
| Present for Joan | | |
| Entertainment | | |
| Mowing lawns | | |
| Utilities | | |

2. Hannah has made a list of her incomes and expenses for one month.

| *Income* | | *Expenses* | |
|---|---|---|---|
| Semi-monthly paycheque | $400.00 | Rent | $395.00 |
| Tips | $140.00 | Loan payment | $85.00 |
| Yard and house work | $150.00 | Car (gas and insurance) | $185.00 |
| Tutoring | $150.00 | Clothing | $75.00 |
| Semi-monthly paycheque | $400.00 | Food | $170.00 |
| | | Entertainment | $50.00 |
| | | Miscellaneous | $25.00 |
| | | Cell phone | $40.00 |

Doing a bit of yard work can supplement your income.

a) How much will Hannah be able to save each month?

b) What percentage of her income do her savings represent?

c) After 6 months, Hannah wants to buy a new bicycle that costs $1199.99. Will she have enough money saved?

3. Perseus has regularly saved $125.00 per month since be began working 8 months ago. He has planned a trip in 6 months, which will cost him $1900.00. How much more does he have to save each month to have enough for the trip?

4. Shonda has listed her income and expenses for one month. She has regular income from a part-time job, and also earns money from tutoring and babysitting.

| | |
|---|---|
| Babysitting | $40.00 |
| Babysitting | $40.00 |
| Cell phone | $40.00 |
| Entertainment | $105.00 |
| Food | $195.00 |
| Loan payment | $65.00 |
| Paycheque | $375.00 |
| Paycheque | $375.00 |
| Rent | $425.00 |
| Renter's insurance | $25.00 |
| Transportation | $80.00 |
| Tutoring | $50.00 |
| Tutoring | $100.00 |
| Tutoring | $50.00 |

a) Sort the items listed into income and expenses.

| *Income* | | *Expenses* | |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

b) Calculate her total income and expenses.

c) How much can Shonda save in one year? Include any assumptions you made.

d) What percentage of her income do her savings represent?