

$$M = \frac{P \left( \frac{i}{n} \right)}{1 - \left( 1 + \frac{i}{n} \right)^{-nt}}$$

**Section 3.3 – Managing a Budget**

- Where does all your money go?
- No matter how much money you earn, a budget lets you know exactly what happens to your cash.
- Below are three different cash flow scenarios over one month.

Review the numbers to determine who’s breaking the bank and who will meet their goals the soonest.

**Scenario 1**

Nate is a junior in high school. He works 15 hours a week at the mall, and his net income after taxes is \$600 a month. He lives with his parents, so he doesn’t have rent, utility or food expenses.

- His older brother owns a car and lets him borrow it to drive to work for \$50 each month; otherwise Nate takes the bus. He really wants to buy a car, so he puts any leftover money toward savings. Nate also pays for his cell phone and personal expenses, such as going to the movies, buying video games and purchasing gifts.

Below is Nate’s estimated budget and what he actually spent in one month’s time.

Analyze Nate’s spending to determine why he is not on track to save for that new car, and what changes he can make to get on track.

	Budget Goals	Actual Budget
<b>Fixed Expenses</b>		
Saving for a Car	\$100	\$0
Cell Phone	\$75	\$100
Car Payment to Brother	\$50	\$100
<b>Variable Expenses</b>		
Public Transportation	\$50	\$60
Entertainment	\$50	\$65
Personal Shopping	\$50	\$175
Occasional Spending	\$25	\$100
<b>Total</b>	<b>\$400</b>	<b>\$600</b>

**Scenario 2**

Maria just graduated from college and accepted her first job as a social media manager for a real estate company. She can't believe that her monthly net income will be \$3,000.

- She just moved into a one-bedroom apartment, so she is responsible for rent, utilities, food and other household expenses. She is paying off a student loan and she wants to save as much money as she can to buy a house someday. She owns a car and enjoys going out with friends on the weekend.

Below is Maria's estimated budget and what she actually spent in one month's time.

Analyze her spending to see why she is not on track to meet her goal and to determine what she can do to get back on track.

	Budget	Actual
<b>Fixed Expenses</b>		
Saving for House	\$450	\$150
Rent	\$6000	\$600
Car Payment	\$350	\$350
Car Insurance	\$150	\$150
Internet/Cable	\$110	\$110
Cell Phone	\$75	\$105
Student Loan Payment	\$300	\$300
<b>Variable Expenses</b>		
Gas	\$100	\$175
Food	\$250	\$300
Entertainment	\$100	\$250
Personal Shopping	\$75	\$300
Utilities	\$200	\$275
Occasional Spending	\$150	\$250
<b>Total</b>	<b>\$2910</b>	<b>\$3315</b>

- As you can see it adds up fast
- Maria is over budget on her spending and will need to assess her Wants vs. Needs



**Calculate Percentage Use of Monthly Pay**

Now Calculate the Percentage of your income going to each expenditure. To the suggested Percentage

Rent	30%	
Utilities	10%	
Car Insurance	5%	
Cell Phone	5%	
Occasional Spending	10%	
Food	15%	
Car Loan	10%	
Entertainment	5%	

Work Space for Percentage Calculations:

**Assess Your Budget**

Compare your expenses to your monthly income. Have you spent everything you've earned? Do you have money left over for savings? What expenses could you lower to increase your savings?

**Answer Key – Section 3.1**

1. $I: \$167.67$ $FV: \$1247.67$	2. $I: \$788.32$ $FV: \$5038.38$
3. $I: \$778.44$ $FV: \$7403.44$	4. $I: \$209.88$ $FV: \$3569.88$
5. $I: \$1690$ $DL: \$4810$ $r: 8.78\%$	6. $I: \$1584$ $DL: \$8016$ $r: 9.9\%$
7. $I: \$885.52$ $FV: \$7085.52$	8. $I: \$2005.18$ $FV: \$9505.18$
9. $I: \$1219.66$ $FV: \$10\,819.66$	10. $I: \$1419.51$ $FV: \$3919.51$
11. $I: \$986.00$ $FV: \$5986.00$	12. $r: 12.47\%$
13. $r: 12.16\%$	14. $A: \$452\,839.45$
15. $P: \$30\,859.39$	16. $A: \$16\,407.31$
17. $r: 8.7\%$	

**Answer Key – Section 3.2**

1. \$31 444.73	2. \$729 015.78	3. \$44 992.88	4. \$189 202.88
5. \$50 476.98	6. \$565.51	7. \$761.45	8. \$1139.91
9. \$401 485.16	10. <i>Simple Interest</i>	11. \$780, \$840	12. \$125.96
13. <del>1</del> <b>773.28</b>	14. \$1304.65	15. \$2458.61, 26.82%	16. \$1885.41, 23.87%