Unit 5, Lesson 4

Money and Debts

Let's apply what we know about signed numbers to money.

4.1 Concert Tickets

Priya wants to buy 3 tickets for a concert. Each ticket costs $50. She has earned $135.

1. What could Priya do in order to be able to buy the tickets?

2. One equation that represents this situation is $135 + 15 = 3 \cdot 50$. What do each of the numbers tell us about this situation?

3. Another equation that represents this situation is $135 - 3 \cdot 50 = -15$. What do each of the numbers tell us in this situation?

4.2 Earning and Spending

For each transaction:

- Use a variable to represent the unknown quantity, and write an equation.
- Represent the transaction on a number line.
- Find the unknown quantity.

1. At the beginning of the month Kiran had $24. He spent $16 at a craft fair. How much money did he have then?

2. After he earned some money babysitting, he had a total of $28. How much did he earn?

3. Then he pledged to donate $30 to the local animal shelter. Kiran said, “Uh oh. Now I have -$2.” What do you think he meant by that?

4. Kiran spent $5 on supplies to clean windows. How much money would he say he had after that?

5. Kiran washed some windows and earned enough money so that now he can pay off his pledge. How much money did he earn?

4.3 Bank Statement

Here is a bank statement.

Responsible Bank
210 2nd Street
Anytown, MH 06930

Checking Account Statement
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Andre Person
1729 Euclid Ave
Anytown, MH 06930

Statement Period	Account No.
2017-10-01 to 2017-11-01	1120635978

Date	Description	Withdrawals	Deposits	Balance
2017-10-03	Previous Balance			39.87
2017-10-05	Check Number 256	28.50		11.37
2017-10-06	ATM Deposit - Cash		45.00	56.37
2017-10-10	Wire Transfer	37.91		18.46
2017-10-17	Point of Sale - Grocery Store	16.43		2.03
2017-10-25	Funds Transfer from Savings		50.00	52.03
2017-10-28	Check Number 257	42.00		10.03
2017-10-29	Online Payment - Phone Services	72.50		-62.47

1. Andre makes a **withdrawal** of $40 to buy a music player. What is his new balance?

2. If Andre makes a **deposit** of $100 into this account, will he still be in debt? Explain your reasoning.

3. If withdrawals and deposits were in the same column, how could each be represented using signed numbers?

Are you ready for more?

The national debt of a country is the total amount of money the government of that country owes. Imagine everyone in the United States were asked to help pay off the national debt. How much would each person have to pay?

Lesson 4 Summary

Banks use positive numbers to represent money that gets put into an account and negative numbers to represent money that gets taken out of an account. When money is put into an account, it is called a **deposit**. When money is taken out of an account, it is called a **withdrawal**.

People also use negative numbers to represent debt. If we take out more money from our account than we put in, then we owe the bank money, and our account balance will be a negative number to represent that debt. For example, if we had $200 in our bank account, and then we wrote a check for $300, we would owe the bank $100, and our account balance would be -$100.

starting balance	deposits and withdrawals	new balance
0	50	$0 + 50$
50	150	$50 + 150$
200	-300	$200 + (-300)$
-100		

In general, we can find a new account balance by adding the value of the deposit or withdrawal to it. We can also tell how much money is needed to repay a debt using the fact that to get from a value to 0, we need to add its opposite.