

# Accounts and Interest

Math 9

## Accounts & Interest

**Account:** an arrangement made with a financial institution whereby one may deposit and withdraw money and in some cases be paid interest.

Chequing Account	Savings Account
<ul style="list-style-type: none"><li>- allows you easy access to your money</li><li>- bank card is linked to your account</li><li>- some transactions are free</li><li>- allows you to write cheques</li></ul>	<ul style="list-style-type: none"><li>- used less frequently</li><li>- allows you to earn interest</li><li>- higher interest rate</li><li>- tax-free savings account (TFSA)</li></ul>

**Interest:** money paid regularly at a particular rate for the use of money lent, or for delaying the repayment of a debt.

- If you borrow money from someone, or a financial institution, you pay interest.
- If you lend money to someone, or keep it at a financial institution, you earn interest.

**Service Charge:** A fee charged by a financial institution for taking care of your money.

Examples: using an ATM from another bank  
monthly account fees  
transaction fees

An **ATM** (automated teller machine) is a machine used for common banking transactions with a debit card which has a PIN.

**Transaction:** A transfer of money.

Deposit	A transaction that puts money in your account.
Withdrawal	A transaction that takes money out of your account.
Debit	Money taken out of your account.
Credit	Money added to your account.

**Bank Statement:** A record of transactions and the balance in the account over a period of time, usually one month.

**Simple interest** is paid at the end of the investment time period. It is calculated using the formula:

$$I = p \times r \times t$$

interest earned ———  $I$  ——— investment time period  $t$   
principal (amount invested)  $p$  ——— interest rate  $r$   
(usually expressed as a percent, but multiplied in decimal form)

**Example 1:** When Corinne got her first job, she opened a bank account that charges a fee of \$5 per month. The account allows 10 free transactions each month, and additional transactions cost \$1.25 each. Any transactions using her bank card at another institution cost \$1.50 each. Her pay is electronically deposited into her account every other Friday. Corinne views her first monthly bank statement online, as shown below.

Date	Details	Debits (—)	Credits (+)	Balance
Aug 2	Cash deposit		10.00	10.00
Aug 7	Direct deposit		146.73	156.73
Aug 8	ATM withdrawal	20.00		136.73
Aug 8	ATM charge	2.50		134.23
Aug 8	Bank machine fee	1.50		132.73
Aug 8	Cinemas	11.95		120.78
Aug 8	Joe's Subs	7.88		112.90
Aug 12	ATM withdrawal	20.00		92.90
Aug 12	ATM charge	2.50		90.40
Aug 12	Bank machine fee	1.50		88.90
Aug 15	ATM withdrawal	20.00		68.90
Aug 21	Direct deposit		171.06	239.96
Aug 21	ATM withdrawal	40.00		199.96
Aug 21	Just Jeans	67.19		132.77
Aug 22	Cinemas	11.95		120.82
Aug 28	Cell Phone Co.	87.40		33.42
Aug 28	ATM withdrawal	20.00		13.42
Aug 31	Interest		0.01	13.43
Aug 31	Account fee	8.75		4.68

- a) What is Corinne's opening balance? **\$10**
- b) What is her closing balance? **\$4.68**
- c) Do credits increase or decrease the money in a bank account? How do you know?  
**Credits increase the money – the balance goes up!**
- d) What is the total of the credits and the debits? Which do you think should be greater?  
**total credits: \$327.80 debits: \$323.12**  
**Credits should be greater – spend less than you earn!**
- e) How many transactions did Corinne do in her first month? How many of those were free? How many did she have to pay for?  
**13 transactions – 10 were free**  
**She had to pay for 3 transactions.**
- f) Explain how the bank determined the account fee debited on August 31. Would this fee be the same every month?  
**monthly fee + transaction fees**  
**\$5 + \$1.25 × 3 = \$8.75**  
**This fee depends on the number of transactions.**
- g) Why is it important for Corinne to read her bank statement each month?  
**- catch any mistakes - spending patterns**  
**- confirm bank charges**
- h) Why do you think Corinne has a bank account?  
**- store money safely - convenience (doesn't always need to use cash)**  
**- allows for direct deposit - earn interest**
- i) If Corinne's cash withdrawals had all been done through her bank's ATM instead of another bank's, how much would Corinne have saved?  
**(2.50 + 1.50) × 2 = \$8**

**Example 2:** You have \$300 saved which you would like to invest. You have two options:

Option A: Lend the money to your parents for 1 year at a simple interest rate of 5% per year.

Option B: Invest it at a bank that pays simple interest of 3% per year for 3 years.

- a) What amount of interest will you receive with each option?  
**A:  $300 \times 0.05 \times 1 = \$15$**   
**B:  $300 \times 0.03 \times 3 = \$27$**
- b) Describe the advantages of choosing each option.  
**A: get the money back sooner**      **B: you earn more interest**