7.2 Accounts + Interest

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7.2 Accounts & Interest

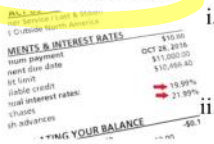
Name:_____ Block____

A) BANKING TERMINOLOGY....

Bank Account Types:

Chequing Account	Savings Account
• allows you to have + write cheques. • certain amount of debit transactions per month	• allow you to earn interest. • "High Interest Savings Accounts" → higher interest. (restrictions)

What is interest? There are a couple of types of interest…



i. The fee charged by a bank or credit union when you borrow money form them. *For example, a loan, or a credit card.*

ii. Interest is also the fee a bank will Pay YOU to keep your money in a savings account at that bank. (generally around 0.1% monthly)

Activity

Date	Description	Credits	Debits	Balance
05/21/2012	Beginning Balance			$100.01
05/21/2012	ATM Withdrawal Transaction Fee: $ 3.00	$0.00	-$23.00	$77.01
05/31/2012	Direct Deposit	$100.00	-$0.00	$177.01
06/15/2012	Direct Deposit	$100.00	-$0.00	$277.01
06/20/2012	ACH Deposit	$4,000.00	-$0.00	$4,277.01
06/20/2012	Interest Earned	$0.10	-$0.00	$4,277.11
06/20/2012	ATM Fee Reimbursement	$3.00	-$0.00	$4,280.11
06/20/2012	**Ending Balance**			**$4,280.11**

certain kinds of accounts.

Service Charge: A service fee may be charged by a bank for taking care of your money.

What are some examples of when a service fee might be charged?

- using an ATM that isn't your bank
- account fees.

An **automated teller machine,** or ATM is a machine used for commone banking transactions with a debit card that has its own PIN (personal identification number)

A "**transaction**" refers to any transfer of money eg. getting paid, or a debit payment

Bank statements are a ***"record of transactions"***.

→ monthly.

1

A **deposit** is a transaction that puts money IN your account.

What is another word for a deposit? credit (+)

What are some *examples of deposits?*

- pay check
- parents
- interest
- cheque
- e-transfer

A **withdrawal** is a transaction that takes money OUT your account.

What is another word for a withdrawal? debit (-)

What are some *examples of withdrawals?*

- buy things with debit card
- automatic bill payments

B) ANALYZING BANK STATEMENTS

Below is an example of a bank statement:

Date	Details	Debits (-)	Credits (+)	Balance
Jan 1	Direct deposit		207.21	207.21
Jan 2	Cash deposit		25.00	232.21
Jan 5	ATM withdrawal	40.00		192.21
Jan 12	ATM charge	2.50		189.71
Jan 14	Silvercity	23.25		166.46
Jan 15	Direct deposit		223.47	389.93
Jan 21	Fujiya	12.29		377.64
Jan 23	Starbucks	8.97		368.67
Jan 27	"Uptown"	79.88		289.79
Jan 31	Interest		0.01	289.80
Jan 31	Account fee	6.50		283.30

What kind of information is contained in a bank statement?

date, place (who) + amount + balance after all transactions.

1. What is the opening balance?

   $207.21

2. What is the closing balance?

   $283.30

3. What is the total of the credits? What is the total of the debits? Which do you think should be greater?

in order to save money, credits must be greater.

Total credits = $455.69 (+)

Total debits = $ 173.39 (-)

} + $282.30

4. How many transactions *(this includes deposits and withdrawals)* were performed during the month of January?

debit

exclude: interest, ATM fee, account fee,

8 debit transactions.

5. If the first five transactions are covered under an account fee of $5/month, how much did each of the remaining transactions cost?

Total → 8 − 5 = 3 ← "free"

3 paid for 3 transactions

This month the account fee was $6.50

$6.50 − $5 = $1.50 ← extra charge

$1.50 / 3 = $0.50

each transaction over the 5 included costs $0.50.

6) CALCULATING SIMPLE INTEREST

Formula:

$$I = p \cdot r \cdot t$$

I = simple interest amount

p = principal (how much you started with)

r = interest rate (as %)

t = length of time the money is invested

INTEREST RATE (r)	SIMPLE INTEREST (I)	PRINCIPAL (p)
• usually a %	• interest paid at the end of the investment period.	• the amount invested (or borrowed in a loan)
• by how much your money increases		
• or the cost of borrowing money.		

Example 1:

1. You decide to invest $500 from your savings. You have two options.

   Option A: Lend it to your parents for 1 year at an interest rate of 5%.

   Option B: Invest it at a bank that pays a simple interest of 6% for 3 years.

a) What amount of interest will you receive with each option?

b) Describe the advantages of choosing each option.

Example 2:

How long would you need to invest $750 at an interest rate of 3% to earn $50 in interest?

Example 3:

What amount of principal would you need to invest to earn $25 in interest over two years at an interest rate of 4%?

$2.5\% = \frac{2.5}{100} = 0.025$

Example 4:

If you earned $325 in interest over 2 years at a rate of 2.5% what was the value of the principal that you invested?

→ solve for "p"

$I = \$325$

$p = ?$

$r = 0.025$

$t = 2$

$I = p \cdot r \cdot t$

$\frac{I}{rt} = \frac{p \cdot r \cdot t}{rt}$

$p = \frac{I}{r \cdot t} = \frac{325}{(0.025)(2)} = \frac{325}{(0.05)} = \$6500$

PRACTICE

$\frac{0.5}{100} = 0.005$

1) You borrow $100.00 from your aunt. She says she will charge you 0.5% simple interest and give you 1.5 years to pay her back. How much will you owe her in total?

$I = ?$

$p = \$100.00$

$r = 0.005$

$t = 1.5$

$I = p \cdot r \cdot t$

$I = (100)(0.005)(1.5)$

$I = 0.75$

I = simple interest amount. This is how much extra you will owe.

So in total you owe your aunt:

$100 + 0.75$ ← interest

original loan

$= \$100.75$

2) Stephan spent $980 on his credit card 12 months ago and has not paid it off yet. If his credit card charges him a simple interest of 19%, how much does Stephan owe now?

$\frac{19}{100} = 0.19$

$I =$

$p = \$980$

$r = 0.19$

$t = 12$

$I = prt$

$I = (980)(0.19)(12)$

$I = \$2234.40$

Stephan now owes

$980 + $2234.40

$= \$3\,214.40$

Time is 12 here because the credit card company will charge that 19% interest EACH MONTH you don't pay... so that's 12 times for Stephen... yikes!

* NOTE: I.R.L stephen would be charged $(980)(0.19) = 186.20$ during month 1. Then next month he owes $980 + 186.20 = \$1166.20 \times 0.19 = \$221.58$ ← interest for month 2.

...and it would increase each month.... so he would owe MUCH more than $3214.40

=> This is called compound interest. (save for grade 11)

Homework

Assignment #7.2

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Required	Extra Practice	Extension
#1, 2, 3, 4, 5, 7, 8, 9, 11, 12, 14, 16abcd	6, 10, 13, 15, 16e	17