Activity 4: Credit Cards Debt Case Study

Case 1

Katie has a credit card and uses it for large purchases. She makes sure to visit her bank's local branch every month before her credit card bill is due to pay her balance. Katie knows the dangers of credit card debt – she's never missed a payment.

Here's her credit card statement from April 2019.

Statement period: Mar 22nd, 2019 – Apr 22nd, 2019

Payment due date	May 12th, 2019
Minimum payment	$10.00
Previous balance (Feb 21st – March 21st)	$1,204.93
Interest	+ $0.00
Payments (credits)	- $1,204.93
Purchases (charges / debits)	+ $440.54
New balance	$440.54

Actual Interest Rates

Purchases	19.99%
Cash Advances	22.99%

Ref #	Transaction Date	Post Date	Description	Amount
1	Mar 28	Mar 29	NETFLIX.COM ON	$13.99
2	Mar 30	Apr 01	TELUS MOBILE BARRIE ON	$39.99
3	Apr 07	Apr 08	YORK BOOKSTORE TORONTO ON	$362.57
4	Apr 12	Apr 13	KOREAN GRILL TORONTO ON	23.99

Q1. What was Katie's largest credit transaction?

Q2a. What was her balance in the April statement? Show your calculation.

Q2b. What about the previous month?

Q3. What additional steps could Katie take to protect herself from credit card debt?

Case 2

Johnny has a credit card and uses it for everything. He thinks it goes through the machine faster than his debit card. Johnny already set-up automatic payments from his chequing account – only because he's lazy and it seemed like less effort in the long run. He spends a lot and often leaves his chequing account drained.

Here's Johnny's credit card statement from January 2019.

Statement period: December 12th, 2018 – January 12th, 2019

Payment due date	January 24th, 2019
Minimum payment	$12.00
Previous balance (Nov 11th – Dec 11th)	$502.33
Interest	+ $20.35
Payments (credits)	- $522.68
Purchases (charges / debits)	+ $299.94
New balance	$299.94

Actual Interest Rates

Purchases	19.10%
Cash Advances	21.20%

Ref #	Transaction Date	Post Date	Description	Amount
1	Dec 22	Dec 24	SOBEYS 922 ON	$36.80
2	Dec 26	Dec 27	KOODO MOBILE BARRIE ON	$45.99
3	Jan 6	Jan 07	WAL-MART #3332 TORONTO ON	$161.27
4	Jan 6	Jan 07	TONY'S SUSHI MISSISSAUGA ON	33.99
5	Jan 9	Jan 10	SOBEYS 922 ON	$7.90
6	Jan 10	Jan 11	PIZZA PIZZA 432 TORONTO ON	$13.99

Q1a. How much interest did Johnny owe in his December statement?

Q1b. How much of it did he pay?

Q2a. On January 24th, Johnny's automatic payment from his chequing account to his credit card company bounced. Accordingly, his credit card company charged him interest. How much interest would he owe on his first transaction?

Q2b. What about his last?

Q2c. Calculate his total interest for all 6 transactions.

Q3. What could Johnny have done to prevent his payment from bouncing?

Activity Answer Key

Case 1 (Katie)

A1. YORK BOOKSTORE TORONTO ON. $362.57.

A2a. $440.54

A2b. $1,204.93

A3. She should set up automatic payments from her chequing account to ensure she never misses a monthly credit card payment.

When you go over your monthly credit card limit your bank will charge you an over-limit fee. She should also check with her bank to see if they offer an 'over-limit pad'. This will block any purchase she makes that takes her over her credit card limit – avoiding the fee (and applicable interest).

Case 2 (Johnny)

A1a. $20.35

A1b. All of it.

Banks calculate compound interest using this formula:

$$A = P(1+\frac{r}{365})^t\text{, where…}$$

$\boldsymbol{A}$ is the amount we're calculating

$\boldsymbol{P}$ is our principal – it's the initial amount owed before any interest is added (the transaction's value)

r is our interest rate. We assume there are 365 days in any given year (use the yearly interest rate)

t is the amount of time elapsed (measured in days)

A2a.

$$A_1 = 36.8(1+\frac{19.1\%}{365})^{33}$$

A2b.

$$A_2 = 13.99(1+\frac{19.1\%}{365})^{14}$$

…continued on next page

A2c.

$$P_1 = \$36.80$$

$$P_2 = P_1(1 + \frac{19.1\%}{365})^4 + 45.99$$

$$P_2 = P_1(1 + \frac{19.1\%}{365})^4 + 45.99$$

$$P_3 = P_2(1 + \frac{19.1\%}{365})^{11} + 161.27$$

$$P_4 = P_3(1 + \frac{19.1\%}{365})^3 + 7.9$$

$$P_5 = P_4(1 + \frac{19.1\%}{365}) + 13.99$$

$$A_3 = P_5(1 + \frac{19.1\%}{365})^{13}$$

A3. Johnny should monitor his chequing account and credit card regularly, know when his monthly credit card payment is due, and make sure he has enough funds in his chequing account to cover it.

He should also consider overdraft protection for his chequing account. If he doesn’t have enough money in his account to cover a payment, overdraft protection will avoid bounced payment fees. Always choose the pay-as-you go option instead of the monthly fee.

Terms of Service

FinStart's goal is to educate.

The information on the Site is provided for general information only and is not exhaustive. We aim to update the Site as needed. However, the information can change without notice we cannot guarantee that it will always be accurate and error-free. Please do your own research to verify for yourself the ideas you find on this Site.

FinStart © not a financial services firm. The information on this Site does not constitute advice of any kind and does not nor should it replace competent financial services, legal, accounting and other professional advice. Please do not rely on this information to make financial or investment decisions and seek independent advice as required for your purposes.

We do not warrant that your use of the Site, the operation or function of the Site, or any services offered through or from the Site, will be uninterrupted, that defects will be corrected, or that this Site or its server are free of viruses or other harmful elements.

Therefore, FinStart or its contributors shall not be liable for any damages related to your use or inability to use this Site, including without limitation direct, indirect, special, compensatory or consequential damages, lost profits or loss of or damage to property.

If you are dissatisfied with the Site, any of its contents, or any of our terms, kindly contact us directly.

Proprietary Materials. The website and all associated educational resources are owned and operated by FinStart.ca. The visual interfaces, graphics, design, compilation, information, computer code (including source code or object code), software, services, content, educational videos and exercises, lesson plans, and all other elements are protected by Canadian and international copyright, patent, and trademark laws, international conventions, and other applicable laws governing intellectual property and proprietary rights. Except for any user content provided and owned by users, all content and trademarks, service marks, and trade names, contained on or available through the website are owned by or licensed to FinStart.ca.

Licensed Educational Content. FinStart.ca may make available on the Website certain educational videos, exercises, and related supplementary materials that are owned by it or its third-party licensors. FinStart.ca may grant to you in writing a non-exclusive, non-transferable right to access and use such content solely for agreed-upon one-time non-commercial use in a specified classroom setting.

Crediting FinStart.ca. If you distribute, publicly perform or display, transmit, publish, or otherwise make available any licensed educational content or any derivative works thereof, you must also provide prominently the following notice: **"All FinStart content is available for free at www.finstart.ca".**

Third-Party Sites, Products and Services. The website may include links or references to other web sites or services solely as a convenience to users. FinStart.ca does not endorse any such reference sites or the information, materials, products, or services contained on or accessible through them. Access and use of reference sites, including the information, materials, products, and services on or available through reference sites is solely at your own risk.

No Warranties. The website, and all data, information, software, website materials, content, user content, reference sites, lesson plans, additional educational resources, services, or applications made available in conjunction with or through the website, are provided on an "as is", "as available", and "with all faults" basis. To the fullest extent permissible pursuant to applicable laws, FinStart.ca and its affiliates and licensors, disclaim any and all warranties and conditions, whether statutory, express or implied, including, but not limited to, all implied warranties of merchantability, fitness for a particular purpose, title, and non-infringement. No advice or information, whether oral or written, obtained by you from FinStart.ca or through the website will create any warranty not expressly stated herein.

Content. FinStart.ca, and its suppliers, licensors, and affiliates, do not warrant that the website or any data, user content, functions, or any other information offered on or through the website will be uninterrupted, or free of errors, viruses or other harmful components, and do not warrant that any of the foregoing will be corrected.

Harm to Your Computer. Users understand and agree that their use, access, download, or otherwise obtaining of content, website materials, software, or data through the website (including through any APIs) is at their own discretion and risk, and that they will be solely responsible for any damage to their property (including their computer systems) or loss of data that results therefrom.

FinStart for Teachers. FinStart makes available certain resources to teachers who register with us such that they can use them to work with students in order to provide such students with tutorial or educational services as part of the school's curriculum or as an extra-curricular activity, and to review and evaluate educational achievement and progress of such students. If you are accessing our resources on behalf of a school, school district, or any educational institution, the following terms apply to you:

(a) Limitations on Use. FinStart's website and resources are provided to you for educational purposes as part of the school curriculum. You must use them in compliance with all applicable laws, rules, and regulations. You agree not to reproduce, duplicate, copy, sell, resell or otherwise exploit for any commercial purpose, any portion of our website or any resources we share with you.

(b) Responsibility for Consent and Notices. You and your school assume sole responsibility for obtaining any consents required from parents or guardians, and for providing appropriate disclosures to users and their parents regarding their use of our resources and our terms of use. You agree to be bound by these terms. Specifically you agree, individually and on behalf of the institution, that:

(i) You assume sole responsibility for providing appropriate notices and disclosures to students accessing our resources for classroom use and their parents regarding the students' use of our website and any resources we share with you and our terms.

(ii) You assume sole responsibility for obtaining any consents required from parents or guardians in connection with accessing our website and other resources for classroom use. You represent and warrant to FinStart that, prior to using our website and resources with students, you have either obtained all necessary parent or guardian consents, or have complied and will comply with all applicable requirements of an exemption from or exception to parental consent requirements.

(c) Use of Integrated Services. If you choose to allow your students to use another service, such as Google Classroom, in conjunction with using FinStart's website and other resources, you are responsible for educating your students on the proper use of integrated services.