

**FINA200**  
**Fall 2014, Sections W and X**  
**Case 2 - due Thursday, October 30, 2014 by 5:00 p.m.**  
**Covering Chapters 5-7 and 10**  
**Heather McIntosh**  
**5993164**

**Question 1 (35 marks)**

Part (a) 29 marks

The couple has three financing options to acquire a second car. Calculate the first month's payment under each financing option.

**Hint:** The ticker symbol for Royal Bank common shares is RY. Please state the date at which you value the shares. Determine the *after-tax* proceeds of the sale of the shares to be used as a down payment before calculating the cost of each financing option. (11 marks for the net sales proceeds, 6 marks per financing option.)

**Please copy and paste the following template into your solution. Expand the spaces as required.**

*RY shares value = \$78.81 at October 27<sup>th</sup> 2014.*  
*175 shares x 78.81 per share = \$13792 sale of shares*  
*13792 / 1.14975 = 11995.65 => \$11996 after tax proceeds for downpayment.*  
*Total amount for car = 45000 x 1.14975 = 51738.75 => 51739*  
*51739 - 11996 = 39743 loan amount*

Option	Calculation	1st Monthly Payment
Purchase	Loan amount=39743 PV 39743, 60N, 0.60 I/Y =786.00	\$786.00
Lease	11996/1.14975=10433.57=>10434	\$499.25

	capital cost reduction: $10434/1.14975=9075$  $45000-9075=35925$  PV 35925, FV 20000, N 60, I/Y 0.60 = \$434.23 $434.23 \times 1.14975=499.25$	
Line of Credit	PV 39743 I/Y 1.3 N 60 PMT= \$711.68	\$711.68

Part (b) 6 marks

Which financing option would you recommend to Peter and Chance, given their ability to manage their finances? Please explain.

*The lease option I think would be the best option. It has the lowest monthly payment out of all three options. There are also no taxes paid on the residual value. The capital cost reduction also reduces the monthly payment amount.*

*I think that a lower monthly payment is better suited since they are only able to put away \$250 per month. This means that they do not have a large surplus at the end of each month. A high monthly payment would likely stretch Peter and Chance too thin to be able to pay all their expenses. So then a low monthly payment would be better suited for them.*

## Question 2 (45 marks)

Part (a) 10 marks

How much would the couple have as a down payment on a new home?

*There are 525 remaining shares from Royal Bank. If they sell the shares at \$78.81 per share they will have \$41375.25 for sale of shares.*

*$41375/1.14975=\$35986.30 \Rightarrow \$35986$  for after tax proceeds for downpayment.*

*Broker fee:  $327000 \times 0.04 = \$13080$*

*start up costs: \$15000*

*$327000 - 250000 = 77000$  capital gain*

*$77000 \times 0.30 = \$23100$  taxes on capital gain*

*$77000 - 23100 = \$53900$  capital gain after taxes*

monthly bond interest income:  $20000 \times 0.02 = \$400$

35986  
+53900  
+400  
-15000  
-13080  
=\$62206

Peter and Chance are able to have a down payment of \$62206

Part (b) 25 marks

How big a mortgage could they assume on a new home, and how much could they pay in total? Use the balance you derive for the down payment in Part (a) in Step 5. Refer to Exhibit 7-6, example A. Ignore the credit card balance.

**Please copy and paste the following template into your solution. Complete all lines in the template even if the amount is zero. Do not delete any lines. Expand the spaces as required.**

Step	Item and Calculations	Amount
1	Monthly gross income $120000/12 = \$10000$	\$10,000
2	Apply TDS Ratio $10000 \times 0.40 = \$4000$	\$4,000
3	Subtract monthly debt payments and home-related costs: <i>Heating, insurance, municipal taxes, and car payments</i> $4000 - 600 - 550 - 300 = \$2550$ affordable monthly payment	\$2,550
<b>A</b>	<b>Affordable monthly mortgage payment</b>	<b>\$2,550</b>
4	Most affordable mortgage based on a 25-year amortization and mortgage rate of 0.40% per month. $(2550/5.53) \times 1000 = \$461,121$ affordable mortgage amount	\$461,121

<b>B</b>	<b>Affordable mortgage amount</b>	<b>\$461,121</b>
5	Add down payment <div style="text-align: right; margin-left: 100px;">\$62206</div> <div style="text-align: right; margin-left: 100px;">+\$461,121 = \$523,317 affordable home purchase price</div>	\$523,317
<b>C</b>	<b>Affordable home purchase price</b>	<b>\$523,317</b>

Part (c) 5 marks

How much income would be available to them per month after payment of the all debt and home-related expenses? Assume their second vehicle costs \$500 a month. In your opinion, is this feasible? Please explain.

*By adding all and home-related related expenses. They have \$5500 to be counted as income before debt. With this they can use \$5000 against their credit card debt that leaves \$500 as income after everything. This is not a feasible option for them. In case of any emergency, the couple would be in dire straits to make ends meet.*

Part (d) 5 marks

How much capital gains tax would the couple have to pay upon the sale of their existing home? Please explain.

*The couple is able to make a profit on the sale of the house. The profit before taxes is \$77,000. The tax rate is 30%.*

*327000-250000=\$77,000 capital gain*

*77000x0.30=\$23,100 taxes on capital gain*

*The taxes to be paid are \$23,100.*

### Question 3 (20 marks)

Part (a) 10 marks

Explain what it means when a bond is trading "at a premium". When will a bond trade for more than its face value?

*When you are trading a bond at a premium you are trading the bond for more than the face value of the bond.*

*Interest rates determine the price of a bond. A bond will trade for more than its face value when the interest rate is lower than the original rate. You can trade a bond before it matures, and when you do this the bond is subject to the current market interest rate along with the time remaining on the maturity.*

Part (b) 10 marks

Does Peter receive any income from his ownership of Royal Bank shares? If so, what form does it take and how would it be taxed in 2013? Please quote your sources.

*Peter sold all of his shares. He sold them at a higher price per share than what he original paid(actually inherited). Yes he received income from his shares. They take the form of capital gains. Capital gains is taxed at a rate of 30%.*

*\$65 per share multiply by 700=\$45000*

*\$78.81 per share multiply by 700 = 55167*

*-45000 = 10167 x 0.30 = 3050.10 => \$3050 in capital gains tax. Peter would receive \$7,117 in capital gains from his Royal Bank shares.*