Print Last Name: ➔	Print First Name: ➔	ID Number: ➔	
COURSE FINANCE	**NUMBER** COMM 308	**SECTIONS: (➔ Circle your section)** A, AA, B, BB, C, D, E	
EXAMINATION Final Exam **VERSION BLUE**	**DATE** December 10, 2010	**TIME** 3 hours	**# OF PAGES 16** including cover
INSTRUCTOR: **(➔ Underline your instructor's name)** Rahul Ravi Jennifer Yang Penelope Ellison Ravi Mateti June Riley		**DIVISION** John Molson School of Business Concordia University	

READ THESE SPECIAL INSTRUCTIONS CAREFULLY

- This is Version BLUE of the test. You must submit a BLUE computer answer sheet.

- For Multiple Choice Questions,
All answers must be recorded IN PENCIL on the computer sheet.
- For Problems:
All answers must be recorded IN INK within this exam.
Show your calculations to earn part marks. Write in the space provided.
- If you are using the back of the exam for answering any question, you should label it clearly

- Cell phones must be turned off, programmable calculators and PDAs are not allowed.

- Please ensure you have 16 pages (including cover) in this exam.

- Fill in your name and other required information IN PENCIL on the Computer Answer sheet as well as IN INK on this cover sheet.

- Blank questions or those with multiple answers will not receive credit.

SCORES (FOR INTERNAL USE ONLY)

Part I Multiple Choice Questions	Part II Long Answer Questions				
	Question 1	Question 2	Question 3	Question 4	
(Max: 70 Points)	(Max: 8 Points)	(Max: 6 Points)	(Max: 8 Points)	(Max: 8 Points)	**Total**

Part I: Multiple Choice Questions (28 Questions, 70 Points Total):

- This part consists of 28 Multiple Choice Questions.
- Each question counts 2.5 points for a total of 70 points.
  - **Only answers on the computer answer sheet will be graded.**
  - **Use a pencil to mark your answers on the Computer Sheet.**

1. A _____ can lose, at most, what she has already invested in a firm.
   I. common stockholder
   II. limited partner
   III. general partner
   IV. sole proprietor
   A) I only
   B) I and II only
   C) I, II, and IV only
   D) II, III, and IV only
   E) II and III only

2. You are choosing between investments offered by two different banks. One promises a return of 10% for three years using simple interest while the other offers a return of 10% for three years using compound interest. You should:
   A) Choose the simple interest option because both have the same basic interest rate.
   B) Choose the compound interest option because it provides a higher return.
   C) Choose the compound interest option only if the compounding is for monthly periods.
   D) Choose the simple interest option only if compounding occurs more than once a year.
   E) Choose the compound interest option only if you are investing less than $5,000.

3. Which of the following statements is (are) true concerning the present value of a single sum?
   I. The higher the discount rate, the higher the present value.
   II. The longer the time period, the higher the present value.
   III. The larger the future value, the larger the present value.
   IV. The larger the present value factor, the larger the present value.
   A) IV only
   B) I and IV only
   C) III and IV only
   D) I, III, and IV only
   E) I, II, III, and IV

4. At a 3% rate of interest, you will quadruple your money in approximately ____ years.
   A) 3
   B) 6
   C) 12
   D) 24
   E) 48

5. An account was opened with $1,000 ten years ago. Today, the account balance is $1,500. If the account paid interest compounded annually, how much interest on interest was earned?
   A) $86.20
   B) $93.10
   C) $102.39
   D) $130.28
   E) $500.00

6. A customer makes two offers to settle a disputed account. He will either pay you $500 today or pay you $650 in three years. Which one of the following is correct if your company earns 10.5% on its surplus funds?
   A) The company should accept the $650 offer as it pays $150 more.
   B) The company should accept the $650 offer as it is worth more today.
   C) The company should accept the $650 offer as it is worth $12.42 more today.
   D) The company should accept the $500 offer as it is worth $18.24 more today.
   E) The company should accept the $500 offer as it is worth $512.42 today.

7. Your banker quotes you two different loan payments on a $12,000 car loan, one calling for 36 monthly payments and the other calling for 24 monthly payments. Both loans have the same APR and EAR. She then tells you that the shorter loan is a better deal because the total payments you would make over the life of the loan would be lower. What is she ignoring?
   A) The payment would be lower on the 24 month loan.
   B) The 24 month contract will actually cost you more in total payments, not less.
   C) The interest you could earn by saving the difference between the two loan payments.
   D) The fact that you must make 12 more payments on the longer term loan.
   E) The APR and EAR for the two loans are irrelevant.

8. In order to help you through college, your parents just deposited $25,000 into a bank account paying 8% interest. Starting tomorrow, you plan to withdraw equal amounts from the account at the beginning of each of the next four years. What is the MOST you can withdraw annually?
   A) $6,125.43
   B) $6,988.91
   C) $7,133.84
   D) $7,548.02
   E) $8,154.71

9. You have found your dream home in Chicoutimi, Quebec. The selling price is $120,000; you will put $20,000 down and obtain a 25-year fixed-rate mortgage at 8.25% for the rest. Although you will get a 25-year mortgage, you plan to prepay the loan by making an additional payment each month along with your regular payment. How much extra must you pay each month if you wish to pay off the loan in 20 years? Canadian Mortgages are quoted as APR compounded semiannually.
   A) $24.56
   B) $54.88
   C) $64.17
   D) $93.28
   E) $106.86

10. Your broker offers you the opportunity to purchase a bond with coupon payments of $90 per year and a face value of $1,000. If the yield to maturity on similar bonds is 8%, this bond should:
    A) Sell for the same price as the similar bond regardless of their respective maturities.
    B) Sell at a premium.
    C) Sell at a discount.
    D) Sell for either a premium or a discount but it's impossible to tell which.
    E) Sell for par value.

11. Suppose you read that a bond with a face value of $1,000 and a coupon of $80 per year has a yield to maturity of exactly 8%. How many years remain until maturity?
    I. Greater than 20 years
    II. Greater than 10 years but less than 20
    III. Less than 10 years
    A) I only
    B) II only
    C) III only
    D) I, II, or III may be correct
    E) Non of the above

12. JM, Inc. just issued 10-year, 8% coupon bonds at par. Outstanding HE Corp. bonds, which have a maturity of 10 years, sell at a premium to par and are viewed by investors as having the same risk as the JM bonds. Therefore, it must be true that:
    A) The coupon rate on the HE bonds is equal to that on the JM bonds.
    B) The coupon rate on the HE bonds is higher than that on the JM bonds.
    C) The coupon payment on the HE bonds is lower than that on the JM bonds.
    D) The yield on HE bonds is higher than the yield on JM bonds.
    E) The HE bonds pay coupons more often than twice a year.

13. As a corporate treasurer, you manage a $100 million bond portfolio. Economists suggest (and you believe) that market interest rates are headed up over the next several months. To reduce interest rate risk you should attempt to:
    I. Reduce the average maturity of the portfolio by selling long-term bonds and buying short-term bonds.
    II. Lengthen the average maturity of the portfolio by buying long-term bonds and selling short-term bonds.
    III. Reduce the average coupon rate by selling high-coupon bonds and buying low-coupon bonds.
    IV. Increase the average coupon rate by buying high-coupon bonds and selling low-coupon bonds.
    A) I only
    B) I and II only
    C) II and III only
    D) I and IV only
    E) I, II, III, and IV

14. Jamie owes $21,750 at a 5% rate of interest. The minimum amount that she must pay monthly is $230.69. How much faster can she pay off this loan if she makes monthly payments of $300.00?
    A) 1.68 years sooner
    B) 2.54 years sooner
    C) 2.79 years sooner
    D) 2.93 years sooner
    E) 3.01 years sooner

15. Alhandro, Inc. just paid an annual dividend of $1.03. They have been increasing their dividends by 4% annually and are expected to continue doing so. How much can they expect to receive for each new share of stock offered if investors require an 11% rate of return?
    A) $9.36
    B) $9.74
    C) $14.71
    D) $15.30
    E) $15.91

16. If the required return is zero, then:
    A) The payback period exceeds the discounted payback period.
    B) The NPV equals the difference between the sum of the undiscounted future cash flows and the initial cost.
    C) If the NPV is negative, the IRR will be greater than zero.
    D) The PI will be less than one.
    E) The project will be acceptable according to the AAR criteria.

17. You discover the engine-oil additive your scientists developed three years ago makes a great men's after-shave once diluted properly using certain chemicals. How should you treat the original $125,000 of R&D expenditures that went into developing the engine-oil additive for your present decision regarding whether or not to begin production of the after-shave?
    A) Treat it as a cash outflow three years ago for the current project; that is, find the future value today of the $125,000 spent three years ago.
    B) The full $125,000 should be treated as an initial investment today.
    C) As a cash inflow since the formula has obviously increased in value over the years.
    D) As an opportunity cost if the formula cannot presently be sold to another manufacturer.
    E) As a sunk cost since the R&D expenditure has no bearing on today's decision.

18. You have a portfolio consisting of equal amounts of IBM stock and Treasury bills. If you replace half of the Treasury bills with more IBM stock, the portfolio expected return will likely _____ and its risk will likely_____, all else the same.
    A) increase, increase
    B) decrease, increase
    C) increase, decrease
    D) decrease, decrease
    E) either increase or decrease, either increase or decrease

19. The principle of diversification states that spreading an investment over a number of assets will eliminate:
    A) All of the risk.
    B) All of the systematic risk and part of the unsystematic risk.
    C) All of the unsystematic risk and part of the systematic risk.
    D) Most of the systematic risk.
    E) Most of the unsystematic risk.

20. Marge Cosmetics just announced that earnings for the first quarter of the current year grew at an annualized rate of 3%, well above the rate for the same quarter the previous year. Upon the announcement, the stock price did not change. (The market in general was also unchanged). Which of the following is most likely correct?
    A) Marge's price didn't change since the market was surprised by the announcement.
    B) Interest rates in the economy must have increased.
    C) Marge's price didn't change because investors likely anticipated the news release.
    D) Marge's price didn't change because the market in general was unchanged.
    E) Marge must have a beta coefficient equal to 1.

21. Which of the following is correct regarding the CAPM?
    A) The expected return for a particular asset depends on the pure time value of money as measured by beta
    B) The expected return for a particular asset depends on the amount of systematic risk as measured by the risk free rate
    C) The standard deviation for a particular asset depends on the reward for bearing risk as measured by beta
    D) Implicit in the CAPM is that all risky assets have the same reward to risk ratio
    E) The SML and CAPM illustrate that the higher the beta, the lower the expected return

22. Standard deviation measures the ____ risk and beta measures the ____ risk of a portfolio.
    A) Unsystematic; systematic
    B) Systematic; unsystematic
    C) Unsystematic; total
    D) Total; unsystematic
    E) Total; systematic

23. Suppose the Bank of Canada increased the rate on T-bills. As a result of this action, the security market line of a risky individual security would:
    A) Remain constant.
    B) Have an increased slope.
    C) Have a decreased slope.
    D) Increase in a parallel manner.
    E) Decrease in a parallel manner.

24. What is the expected return on a portfolio that is invested 40% in stock A and 60% in stock B, given the following information?

Economic State	Probability of State	Return on Stock A	Return on Stock B
Normal	70%	12%	5%
Recession	30%	-10%	8%

    A) 5.40%
    B) 5.70%
    C) 6.40%
    D) 7.80%
    E) 8.10%

25. What is the beta of the following portfolio?

Stock	A	B	C
Amount Invested	$5,000	$10,000	$15,000
Stock Beta	1.20	1.80	0.70

    A) .98
    B) 1.15
    C) 1.19
    D) 1.21
    E) 1.23

26. A firm's WACC is applicable to those projects that:
    A) Are considered within one year of the date of the information used in the WACC computation.
    B) Are similar in risk to the current operations of the firm.
    C) Represent new avenues of business for the firm.
    D) Payback within the required period of time.
    E) Are pure plays in new areas of business.

27. A local retail store allows you to return the merchandise you purchase and get your money back for up to 30 days after the purchase date. The store has, in effect, provided each shopper with _____ options.
    A) American call
    B) European call
    C) American put
    D) European put
    E) Neither a Call, nor a Put

28. Martin owns 15,000 shares of stock that he wants to sell sometime within the next three months. Shares of this stock are currently selling for $43.24. The stock has been increasing in price but Martin is concerned the price might start to fall. He is not yet willing to sell his shares just in case the price rises some more. To guarantee that he can receive at least $42.50 a share when he does sell, Martin could purchase _____ with a strike price of $42.50. Assume that each option allows you to trade 100 units of the underlying asset.
    A) 1,500 warrants
    B) 150 calls
    C) 15,000 puts
    D) 1,500 puts
    E) 150 puts

Part II: Problems (30 Points Total)

- **Answer on this document, in the space provided.**
- Show all of your calculations.
- Write clearly! Part marks will be awarded (when deserved).
- Write your final numerical answer in the box provided.

Q1: (8 Points)

Misery Inc. specializes in purchasing the assets of distressed and bankrupt firms and then selling them at a huge profit. Due to its business model, Misery does brisk business during bear markets but it has few opportunities in a booming economy. The correlation between the returns on the market portfolio and Misery stock is $\rho_{i,m} = -0.1$. Misery stock returns have a standard deviation of $\sigma_i = 0.3$ (i.e. 30%) while the variance of the return on the market portfolio is 0.04. The risk free rate equals 5% and the expected return on the market is 10%.

a) (1 Points) Analysts predict that the price of Misery stock will increase to \$21 by the end of the year from its current level of \$20 per share. If Misery pays no dividends, what return can Misery investors expect based on this forecast?

$$\frac{\$21 - \$20}{\$20} = 5\%$$

b) (2 Points) What is the beta of Misery's stock?

$$\beta = \frac{\rho \times \sigma_{Misery}}{\sigma_{Mkt}} = \frac{-0.1 \times 0.3}{\sqrt{0.04}} = -0.15$$

c) (3 Points) What is the required return on Misery stock based on its systematic risk? Compare this return to the risk free rate in the market. Comment!

(2 Points)

From CAPM: $E\left(r_{Misery}\right) = 5\% + (-0.15)(10\% - 5\%) = 4.25\%$

Due to its negative correlation with the market (negative beta), Misery stock helps investors reduce risk (benefits of diversification are large), therefore investors will require a low return (even below the risk free return).

(1 Point)

d) (2 Points) Does the expected return calculated in part a) provide adequate compensation for the risk? Is Misery under- or overvalued (or is it correctly priced)?

$$5\% > 4.25\%$$

The 5% return based on the forecast provides more than adequate compensation for the risk. Based on the systematic risk investors would only require 4.25%.

Therefore, Misery is undervalued ➔ its price is expected to increase if forecast in the question is correct.

Q2: (6 Points)

CheapMart Inc. has 9 million shares of common stock outstanding, 0.5 million shares of 7% preferred stock (Face value $100) outstanding, and 120,000 8.5% semiannual bonds outstanding, par value $1000 each. The common stock currently sells for $34 per share and has a beta of 1.20, the preferred stock currently sells for $83 per share, and the bond has 15 years to maturity and sells for $1000. The market risk premium is 10%, T-Bills are yielding 5%, and CheapMart's tax rate is 35%.

a) (2 Points) What is CheapMart's Market value Capital Structure? (Fraction of Market value from Debt, Equity, and Preferred)

	# outstanding	Price	Value	% of firm value
Common Stock	9,000,000	$ 34.00	$ 306,000,000.00	65.45%
Preferred Stock	500,000	$ 83.00	$ 41,500,000.00	8.88%
Bonds	120,000	$ 1,000.00	$ 120,000,000.00	25.67%
Firm value			$ 467,500,000.00	

(0.5 points for each weight. 2 points if everything correct)

b) (4 Points) If CheapMart is evaluating a new investment project that has the same risk as the firm's typical project, what rate should the firm use to discount the project's cash flows?

$$WACC = \frac{E}{V} \times k_E + \frac{P}{V} \times k_P + \frac{D}{V} \times k_D \times (1 - T)$$

$$\frac{E}{V} = 65.45\%, \quad \frac{P}{V} = 8.88\%, \quad \frac{D}{V} = 25.67\%$$

$$k_E = 0.05 + 1.2 \times 0.1 = 17.00\%$$ .....(1 Point)

$$k_D = \left(1 + \frac{0.085}{2}\right)^2 - 1 = 8.68\%$$ .....(1 Point)

$$k_P = \frac{D}{P} = \frac{7}{83} = 8.43\%$$ .....(1 Point)

$$T = 35\%$$

$$WACC = 13.32\%$$ .....(1 Point)

Q3: (8 Points)

Magnana Inc. is considering a new 4-year project. The project will require purchase of new equipments costing $60,000. After 4 years these can be salvaged for $15,000. The CCA rate is 25%. Revenues are expected to grow at 5% per year, starting with $10,000 in year 1. The expected costs are $5000 per year. Inventory will increase immediately by $10,000. Accounts receivable are expected to be 10% of revenues and accounts payable are expected to be 10% of costs, each year. Assume that all the net working capital will be recaptured in year 4. Magnana,s WACC is estimated at 10% and their tax rate is 30%.

a) (5 Points) What is the present value of the cash flows from the project, excluding CCA tax shields?

	0	1	2	3	4
Sales		$ 10,000.00	$ 10,500.00	$ 11,025.00	$ 11,576.25
Cost		$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 5,000.00
S-C		$ 5,000.00	$ 5,500.00	$ 6,025.00	$ 6,576.25
(S-C)(1-T)		$ 3,500.00	$ 3,850.00	$ 4,217.50	$ 4,603.38
Inventory	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00
Accounts receivables		$ 1,000.00	$ 1,050.00	$ 1,102.50	$ 1,157.63
Accounts Payables		$ 500.00	$ 500.00	$ 500.00	$ 500.00
NWC	$ 10,000.00	$ 10,500.00	$ 10,550.00	$ 10,602.50	$ 10,657.63
Change(NWC)	-$ 10,000.00	-$ 500.00	-$ 50.00	-$ 52.50	-$ 55.13
Recapture					$ 10,657.63
Net new investment & Salvage	-$ 60,000.00				$ 15,000.00
	-$ 70,000.00	$ 3,000.00	$ 3,800.00	$ 4,165.00	$ 30,205.88
PV	-$ 70,000.00	$ 2,727.27	$ 3,140.50	$ 3,129.23	$ 20,631.02

Total Present value of the cash flows excluding CCA Tax shields = -$ 40,371.99

```
NWC, change in NWC, and Recapture correctly accounted ... (1 Points)
Sales and Costs correctly accounted for ................. (1 Point)
New Investment and Salvage correctly accounted for ...... (1 Point)
All Cash Flows correct ... ( 1 Point)
Present Value ...... (1 Point)
```

b) (2 Points) What is the present value of the CCA tax shields?

$$PV(CCA\ Tax\ Shield) = \frac{(C_0)(d)(T)}{d+k} * \frac{(1+0.5k)}{(1+k)} - \frac{(SV_n)(d)(T)}{d+k} * \frac{1}{(1+k)^n}$$

$$C_0 = \$60,000, d = 25\%, T = 30\%, k = 10\%, SV_n = \$15,000, n = 4$$

$$PV(CCA\ Tax\ Shield) = \$10,077.33$$

c) (1 Point) Should CheapMart take this project? Give reason in support of your answer.

NPV = -$ 40,371.99 + $ 10,077.33 <0
Reject the project.

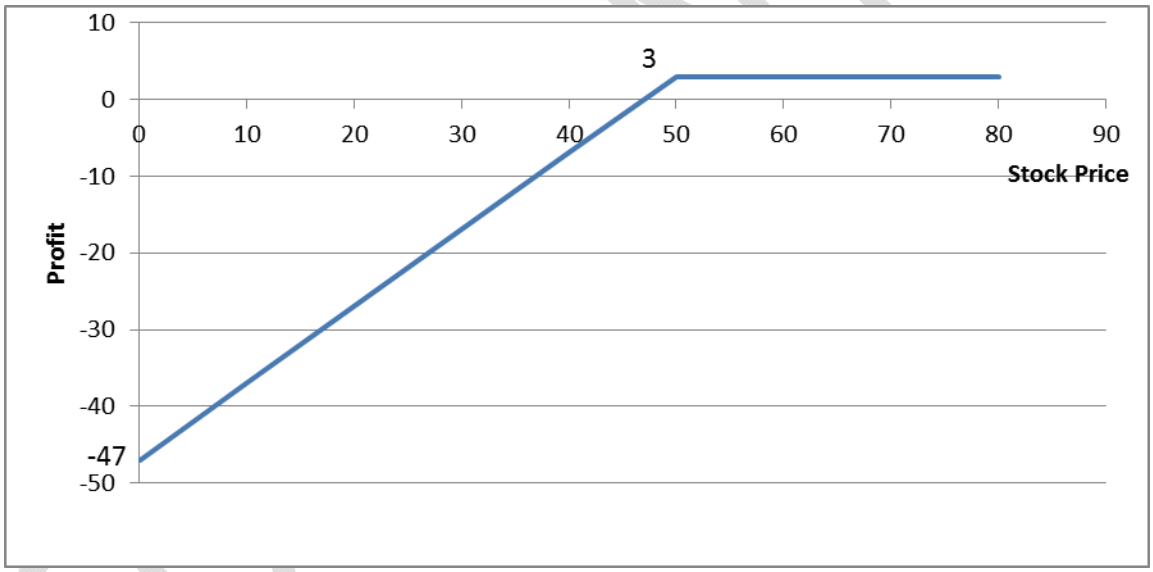
c) **Q3: (8 Points)**

Cheap Shot Guns Inc. stock currently sells for $50 per share.

Important: when drawing payoff or profit diagrams, you need to show the location of each important point on the diagram by writing down the relevant numbers next to each point (i.e. indicate intersections with the horizontal and vertical axes and any points where the payoff/profit function changes abruptly).

a) (3 Points) Consider a European put option on Cheap Shot stock with a strike price of $50 and time to expiration of one year. This option sells for $3. Draw a profit diagram for the writer of this option.

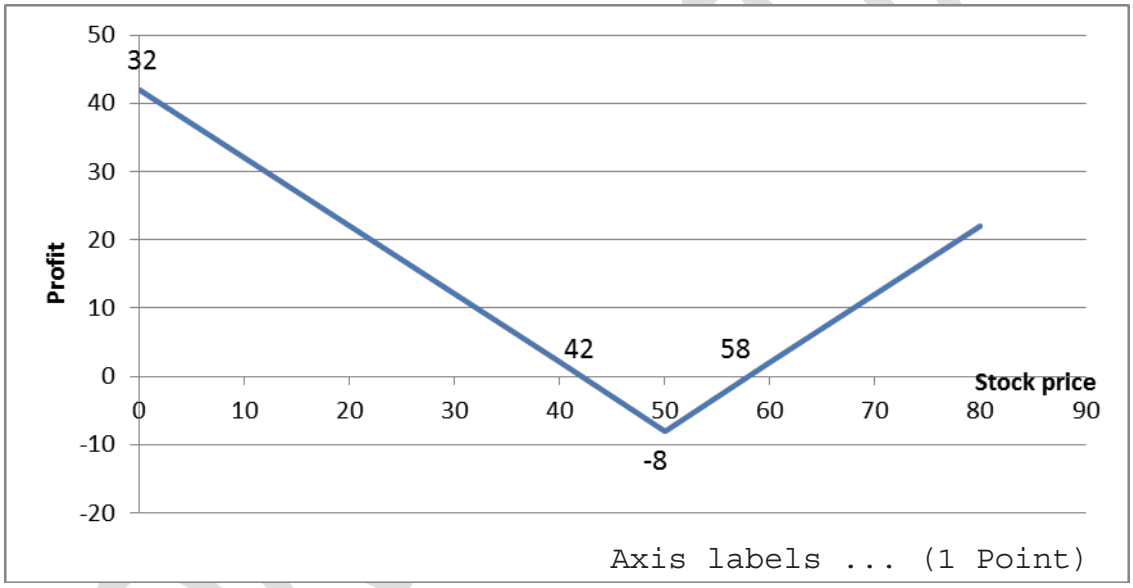
For a European put option with strike price of $50 and a premium of $3, the profit function of the option writer equals to: $\Pi = 3 - Max(50 - P, 0)$. The graph of this function is:



Axis labels .... (1 Point)
Identifying 5 and 45 (1 Point)
Overall Shape (1 Point)

b) (4 Points) Consider a European call option on Cheap Shot stock with a strike price of $50 and time to expiration of one year. This option sells for $5. Your broker suggests the following strategy: buy one European call option and buy one European put option on Cheap Shot stock. As in part a. the put option costs $3, and its strike price is $50. Draw the profit diagram for this strategy. (Make sure your diagram shows the lowest possible profit from this strategy!)

The profit function for the buyer of the put option with a strike price of $50 and a premium of $3 is $\Pi_{put} = Max(50-P,0)-3$. The profit function for the holder of the call option given in part (a) is $\Pi_{call} = Max(P-50,0)-5$. The profit function of the strategy outlined is the sum of these two profit functions. Thus: $\Pi_{strategy} = Max(P-50,0)+Max(50-P,0)-8$



Axis labels ... (1 Point)
32, -8, 48 .... (2 Points)
Overall shape ... (1 Point)

c) (1 Points) Suppose you follow your broker's advice. What needs to happen to the price of Cheap Shot stock in order for you to earn a (positive) profit on your option investment in one year?

The price of the stock should be either above $58 or below $42

Equation List - Comm 308 - Booth-Cleary Text

5.3	Present Value of FV_n : $PV_0 = \frac{FV_n}{(1+k)^n}$
5.4	Future value of an annuity: $FV_n = \frac{PMT}{k}\left[(1+k)^n - 1\right]$
5.5	Present Value of an annuity: $PV_n = \frac{PMT}{k}\left[1 - \frac{1}{(1+k)^n}\right]$
5.8	Present value of perpetuity: $PV_0 = \frac{PMT}{k}$
5.10	Effective rate with continuous compounding: $k = e^{QR} - 1$
5.11	Effective rate: $k = \left(1 + \frac{QR}{m}\right)^{\frac{m}{f}} - 1$
5A-2	Present value of growing perpetuity: $PV_0 = \frac{PMT_0(1+g)}{k-g} = \frac{PMT_1}{k-g}$
5A-4	Present value of growing annuity: $PV_0 = \frac{PMT_1}{k-g}\left[1 - \left(\frac{1+g}{1+k}\right)^n\right]$
6.3	Current Yield: $CY = \frac{Annual\ Interest}{B}$
6.6	Price of T-Bill given BEY: $P = \frac{F}{\left(1 + k_{BEY} \times \frac{n}{365}\right)}$
7.10	Share price with growth opportunities: $P_0 = \frac{EPS_1}{k_c} + PVGO$
7.11	Growth rate: $g = b * ROE$
8.3	Total return = Income yield + Capital gain (loss) yield = $\frac{CF_1}{P_0} + \frac{P_1 - P_0}{P_0}$
8.5	Geometric average (GM) $= \left[(1+r_1)(1+r_2)(1+r_3)\times(1+r_n)\right]^{1/n} - 1 = \left(\prod_{i=1}^{n}(1+r_i)\right)^{\frac{1}{n}} - 1$
8.6	Expected return: $ER = \sum_{i=1}^{n}\left(r_i * \text{Prob}_i\right)$
8.7	Ex-post $\sigma = \sqrt{\frac{\sum_{i=1}^{n}\left(r_i - \bar{r}\right)^2}{n-1}}$
8.8	Ex-ante $\sigma = \sqrt{\sum_{i=1}^{n}\left(\text{Prob}_i\right)\left(r_i - ER\right)^2}$
8.9	Expected portfolio return: $ER_p = \sum_{i=1}^{n}\left(w_i * ER_i\right)$
8.11	Portfolio standard deviation: $\sigma_P = \sqrt{\left(w_A\right)^2\left(\sigma_A\right)^2 + \left(w_B\right)^2\left(\sigma_B\right)^2 + 2\left(w_A\right)\left(w_B\right)\left(COV_{A,B}\right)}$
8.12	$COV_{A,B} = \sum_{i=1}^{n}\text{Prob}_i(r_{A,i} - \bar{r_a})(r_{B,i} - \bar{r_b})$

8.14	$COV_{AB} = \rho_{AB}\sigma_A\sigma_B$
8.16	If $\rho_{AB} = -1$, then: $\sigma_P = w\sigma_A - (1-w)\sigma_B$
9.3	$E(R_P) = RF + \left(\frac{E(R_A) - RF}{\sigma_A}\right)\sigma_P$
9.4	Slope of CML $= \frac{ER_M - RF}{\sigma_M}$
9.6	Sharpe Ratio $= \frac{ER_P - RF}{\sigma_P}$
9.7	$\beta_i = \frac{Cov_{i,M}}{\sigma_M^2} = \frac{\rho_{i,M}\sigma_i}{\sigma_M}$
9.8	$\beta_P = w_A\beta_A + w_B\beta_B + \ldots + w_n\beta_n$
9.9	$k_i = RF + (ER_M - RF)\beta_i$
12.2	*Option* Premium $= IV + TV$
12.5	Put Call Parity: $P + S = C + PV(X)$
13.1	$NPV = \frac{CF_1}{(1+k)^1} + \frac{CF_2}{(1+k)^2} + \frac{CF_3}{(1+k)^3} + \mathsf{K} + \frac{CF_n}{(1+k)^n} - CF_0 = \sum_{t=1}^{n}\frac{CF_t}{(1+k)^t} - CF_0$
13.3	$PI = \frac{PV(Cash\ \text{inflows})}{PV(Cash\ \text{outflows})}$
14.1	$CF_0 = C_0 + \Delta NWC_0 + OC$
14.2	$CF_t = CFBT_t(1-T) + CCA_t(T)$
14.4	$ECF_n = SV_n + \Delta NWC_n$
14.5	$NPV = PV(CF_t) + PV(ECF_n) - CF_0$
14.6	$PV(Operating\ Cash\ Flows) = \frac{CFBT(1-T)}{k}\left[1 - \frac{1}{(1+k)^n}\right]$
14.7	$PV(CCA\ Tax\ Shield) = \frac{(C_0)(d)(T)}{d+k} * \frac{(1+0.5k)}{(1+k)} - \frac{(SV_n)(d)(T)}{d+k} * \frac{1}{(1+k)^n}$
20.8	Cost of Capital: $K_a = \frac{ROI \times IC}{V} = \frac{K_e S + K_d(1-T)D}{V} = K_e\frac{S}{V} + K_d(1-T)\frac{D}{V}$
20.9	$WACC = K_e\frac{S}{V} + K_p\frac{P}{V} + K_i\frac{D}{V}$, Where: $K_i = K_d(1-T)$
20.10	Market value: $S = P_0 \times n$
20.13	Net proceeds: $NP = \frac{I(1-T)}{K_i}\left[1 - \frac{1}{(1+K_i)^n}\right] + F\left(\frac{1}{(1+K_i)^n}\right)$
20.14	Cost of preferred shares: $K_p = D_p \Big/ NP$
20.17	$K_{ne} = \frac{D_1}{NP} + g$
20.21	$K_e = \frac{D_1}{P_0} + g = \frac{X_1(1-b)}{P_0} + b * ROE$
20.27	Cost of new equity: $K_{ne} = K_e * \frac{P_0}{NP}$