Name:_____ **Student ID:** _____

FIN401-701E/711E **RYERSON UNIVERSITY**

FINAL EXAM **Thursday, December 6, 2018** **Professor Jean Wills**

Time Allowed: 3 hours
Aids allowed: one 8.5" x 11" crib sheet double-sided
This exam has 12 pages
There are **50** multiple choice questions and each question is worth 1 mark for a total of 50 marks. Answer all questions on the scantron sheet. **Only the scantron sheets will be graded**. For questions involving calculations, choose the closest answer. Good luck!
ALL PAPERS MUST BE HANDED IN.

1) A brewery is considering adding a new line of craft beers to its product mix. The new beer will require additional brewing and bottling capacity at a cost of $15 million, but is expected to generate new sales of $5 million per year for the next 5 years. If the brewery has a cost of capital of 6%, what is the NPV of this investment?
A) $6.1 million
B) $10 million
C) -$15 million
D) $8.6 million
E) $3.7 million
Answer: A
Ch.8
Explanation: A) Financial Calculator: CF0 = -15,000,000, CF1 = 5,000,000, F1 = 5, calculate NPV for I = 6%
NPV = 6.1 million

2) You are considering an investment opportunity that will cost you $8,000 up front, but return a single cash flow of $18,000 6 years from now. What is the IRR for this investment?
A) 125%
B) 12.3%
C) 14.5%
D) 37.5%
E) 15%
Answer: C
Ch.8
Explanation: C) Financial calculator: CF0 = -8,000; CF1 = 0, F1 = 5, CF2 = 18,000; Compute IRR = 14.5%
Diff: 1 Type: MC

3) Two mutually exclusive investment opportunities require an initial investment of $5 million. Investment A then generates $1.5 million per year in perpetuity, while investment B pays $1 million in the first year, with cash flows increasing by 3% per year after that. At what cost of capital would an investor regard both opportunities as being equivalent?
A) 3%
B) 6%
C) 9%
D) 10%
E) 12%
Answer: C
Ch.8
Explanation: C) $-5 + 1.5 / r = -5 + 1 / (r - 0.03)$; r = 9%

4) A machine is purchased for $500,000 and is used through the end of Year 2. The machine falls under asset class 43 with a capital cost allowance (CCA) rate of 30%. At the end of Year 2, the machine is sold for $75,000. What is the present value of the overall CCA tax shields if the firm's marginal tax rate is 40% and its cost of capital is 5%?
A) $232,128
B) $201,334
C) $175,997
D) $167,347
E) $144,023
Answer: E
Ch.9
Explanation: E) PV = [(500,000 × .30 × .40)/(.05 + .30)] × [(1 + .05/2)/(1 + .05)]
- [(75,000 × .30 × .40)/(.05 + .30)] / $(1 + .05)^2$ = $144,023

5) Bubba Ho-Tep Company reported net income of $300 million for the most recent fiscal year. The firm had a capital cost allowance (CCA) of $125 million and capital expenditures of $150 million. Although it had no interest expense, the firm did have an increase in net working capital of $20 million. What is Bubba Ho-Tep's free cash flow?
A) $170 million
B) $255 million
C) $150 million
D) $5 million
E) $25 million
Answer: B
Ch.9
Explanation: B) FCF = NI + CCA - Capital Ex - chg NWC
= 300 + 125 - 150 - 20 = 255

6) Ford Motor Company is considering launching a new line of hybrid diesel-electric SUVs. The heavy advertising expenses associated with the new SUV launch would generate operating losses of $35 million next year. Without the new SUV, Ford expects to earn pretax income of $80 million from operations next year. Ford pays a 30% tax rate on its pretax income. The amount that Ford Motor Company owes in taxes next year with the launch of the new SUV is closest to:
A) $13.5 million
B) $31.5 million
C) $56.0 million
D) $24.0 million
E) $10.5 million
Answer: A
Ch.9
Explanation: A) (80 - 35) × 0.30 = 13.5 million

7) Apple computers has raised all its capital via equity rather than debt. Such a firm is also referred to as a(n) _____ firm.
A) levered
B) margined
C) risk less
D) unlevered
E) risky
Answer: D
Ch.12

8) Lululemon Athletica is considering introducing a new line of yoga wear that is expected to increase the company's sales by $10 million in the first year, and growing by 3% every year thereafter. If the cost of introducing the new product line is $40 million today, and Lululemon's WACC is 9.4%, what is the NPV of the project?
A) $196.25 million
B) $66.38 million
C) $116.25 million
D) $468.75 million
E) $319.15 million
Answer: C
Ch.12
Explanation: C) NPV = -40 million + 10/(.094 - .03) = $116.25 million

9) Assume JUP has debt with a book value of $20 million, trading at 120% of par value. The bonds have a yield to maturity of 6%. The firm has book equity of $20 million, and 2 million shares trading at $18 per share. The firm's cost of equity is 12%. What is JUP's WACC if the firm's marginal tax rate is 35%?
A) 9.60%
B) 8.76%
C) 9.00%
D) 6.24%
E) 7.34%
Answer: B
Ch.12
Explanation: B) Market Value Debt = $20 million × 120% = $24 million
Market Value Equity = 2 million × $18 = $36 million
Total Market Value = $60 million
W_d = $24/$60 = 40%
W_e = $36/$60 = 60%
WACC = [40% × (1 - .35) × 6%] + (60% × 12%) = 8.76%

10) A lease in which the lessee receives cash from the sale of the asset and then makes lease payments to retain the use of the asset is called a
A) sales-type lease.
B) direct lease.
C) sale and leaseback.
D) leveraged lease.
E) synthetic lease.

Answer: C
Ch.23

11) Justine decides to enter into a 6-year car lease agreement. The purchase price of the car is $24,995, and the expected residual value after 5 years is $9,500. If there is no risk of default and the risk-free rate is 7% APR with monthly compounding, what is the monthly lease payment for a 6-year lease in a perfect capital market?
A) $215.21
B) $423.67
C) $317.74
D) $319.59
E) $347.51
Answer: C
Ch.23
Explanation: C) Set calculator to BEG mode (Annuity Due mode)
PV = 24,995
FV = -9,500
N = 72 (6 years × 12 months/year)
I = 7/12
Compute *PMT* = $317.74

12) Which of the following is considered an unfair comparison?
A) FMV lease versus $1.00-out lease
B) $1.00-out lease versus true tax lease
C) lease versus buy
D) lease versus borrow
E) buy versus borrow
Answer: C
Ch.23

13) Managers should make use of the interest tax shield if the firm has
A) consistent taxable income.
B) volatility in taxable income.
C) consistent dividend payments.
D) low tax rates.
E) many tangible assets.
Answer: A
Ch.23

Use the table for the question below.

Year	0	1	2	3	4	5	6
FCF (Buy)	(250,000)	15,313	25,266	16,423	10,675	6,939	12,886
FCF Lease	(50,000)	(32,500)	(32,500)	(32,500)	(32,500)	17,500	

14) Your firm is contemplating leasing some new equipment. The cash flows of either buying or leasing the equipment are shown in the table above. If your firm's borrowing cost is 7% and the tax rate is 35%, what is the amount of the lease-equivalent loan for the new equipment?
A) $178,937
B) $169,070
C) $30,930
D) $21,063
E) -$14,145
Answer: A
Ch.23

Explanation: A)

Year	0	1	2	3	4	5	6
FCF (Buy)	(250,000)	15,313	25,266	16,423	10,675	6,939	12,886
FCF Lease	(50,000)	(32,500)	(32,500)	(32,500)	(32,500)	17,500	
Lease-Buy	200,000	(47,813)	(57,766)	(48,923)	(43,175)	10,561	(12,886)

The amount of the lease equivalent loan is equal to the present value of the difference in FCFs from years 1 to 6 discounted at the after tax borrowing rate (.07)(1 - .35) = .0455 or 4.55%.

$$\text{LEL} = \frac{\$47,813}{(1.0455)^1} + \frac{\$57,766}{(1.0455)^2} + \frac{\$48,923}{(1.0455)^3} + \frac{\$43,175}{(1.0455)^4} - \frac{\$10,561}{(1.0455)^5} + \frac{\$12,886}{(1.0455)^6} = \$178,937$$

15) Asymmetric information implies that _____ may have better information about a firm's cash flows than other stakeholders.
A) debt holders
B) suppliers
C) managers
D) creditors
E) shareholders
Answer: C
Ch.16

16) An unlevered firm currently has a value of $15 million. The firm has a tax rate of 40%. The firm wishes to replace $5 million of its equity with $5 million of permanent debt. By increasing its leverage, the PV of the expected costs of financial distress would rise from 0 to $1 million. What is the value of the levered firm if it goes ahead with this plan?
A) $10 million
B) $14 million
C) $15 million
D) $16 million
E) $20 million
Answer: D
Explanation: D) $V^L = V^U + T_C D$ - PV(financial distress costs)
V^L = $15m + 0.40 × $5m - $1m = $16 million
Ch.16

17) A firm is currently financed with 40% equity and 60% debt. The firm generates perpetual earnings before interest and taxes of $2 million per year. The firm's cost of equity is 12%, its cost of debt is 5%, and it has a tax rate of 40%. What is the value of the levered firm?
A) $20.2 million
B) $30.3 million
C) $25.6 million
D) $18.2 million
E) $17.6 million
Answer: E
Explanation: E) WACC = 0.4 × 0.12 + 0.6 × (1 - 0.4) × 0.05 = 0.066. Firm value is the PV of perpetuity of free cash flow. Annual interest payment = 0.6 × 2,000,000 × 0.05 = $60,000. Earnings after interest = 2m - 60,000 = $1.94 million. Earnings after interest and taxes = 1.94 × (1 - 0.4) = $1.164 million.
V = $1.164 million/0.066 = $17.6 million
Ch.16

18) A firm requires an investment of $30,000 and borrows $15,000 at 6%. If the cost of equity is 18%, and the firm's WACC is 10.8%, what is the firm's tax rate?
A) 40%
B) 35%
C) 30%
D) 45%
E) 50%
Answer: A
Explanation: A) Use Eq. 16.9 for the WACC
0.18 × (0.5) + 0.06 × (1 - T_C)× (0.5) = 0.108
Solve for T_C = 0.4
Ch.16

19) Suppose a firm has $80 million of permanent debt. If the tax rate is 35% and the cost of debt is 8%, what is the value of the interest tax shield each year?
A) $2.24 million
B) $6.4 million
C) $28 million
D) $80 million
E) $350 million
Answer: A
Explanation: Use Eq 16.7
PV = .35 × 80 x 0.08 = $2.24 million
Ch.16

20) The way a firm chooses between alternate uses of free cash flow is referred to as
A) retention ratio.
B) payout policy.
C) call policy.
D) debt policy.
E) investment policy.
Answer: B
Ch.17

21) A firm has $300 million of assets that includes $50 million of cash and 10 million shares outstanding. The firm uses $30 million of its cash to pay dividends. If an investor has 1000 shares, how many shares must he sell to create a homemade dividend of $3900?

A) 33.3 shares
B) 40.2 shares
C) 50.5 shares
D) 60.3 shares
E) 65.6 shares
Answer: A
Ch.17
Explanation: A) Dividend payment = number of shares times dividend per share
Shares sold = (amount needed - dividend payment) / (new price per share)
Old share price = 300 / 10 = $30;
dividend payment = 30 / 10 = $3
new share price = $30 - $3 = $27
shares sold = (3900 - 3000) / 27 = 33.33 shares

Use the information for the question(s) below.

Omicron Technologies has $50 million in excess cash and no debt. The firm expects to generate additional free cash flows of $40 million per year in subsequent years and will pay out these future free cash flows as regular dividends. Omicron's unlevered cost of capital is 10% and there are 10 million shares outstanding. Omicron's board is meeting to decide whether to pay out its $50 million in excess cash as a special dividend or to use it to repurchase shares of the firm's stock.

22) Assume that Omicron uses the entire $50 million in excess cash to pay a special dividend. Omicron's cum-dividend price is closest to:
A) $50.00
B) $40.00
C) $5.00
D) $45.00
E) $35.00
Answer: D
Ch.17
Explanation: D) Enterprise value - PV(Future FCF) = $\frac{\$40}{0.10}$ = $400 million

Market value = Enterprise value + cash = $400 + $50 = $450 million

Share price = $\frac{\text{Market value}}{\text{shares outstanding}} = \frac{\$450 \text{ million}}{10 \text{ million}}$ = $45.00

23) Assume that you own 2500 shares of Omicron stock and that Omicron uses the entire $50 million to pay a special dividend. Suppose you are unhappy with Omicron's decision and would prefer that Omicron used the excess cash to repurchase shares. The number of shares that you would have to buy in order to undo the special cash dividend that Omicron paid is closest to:
A) 125
B) 275
C) 250
D) 310
E) 200
Answer: D
Ch.17
Explanation: D) Enterprise value - PV(Future FCF) = $\frac{\$40}{0.10}$ = $400 million

Market value = Enterprise value + cash = $400 + $50 = $450 million

However, once the $50 million in cash is used to pay the dividend, the new market value becomes $450 - $50 = $400 million

Share price = $\frac{\text{Market value}}{\text{shares outstanding}} = \frac{\$400 \text{ million}}{10 \text{ million}}$ = $40.00

Dividends that you did not want to receive = 2500 shares × $5 share = $12,500

Number of shares to sell = $\frac{\$12{,}500}{\$40 \text{ per share}}$ = 312.50 shares

24) A firm issues a 50% stock dividend. This transaction is equivalent to a:
A) 3:2 stock split.

B) 1:2 stock split
C) 2:1 stock split
D) 2:3 stock split
E) 1:1 stock split
Answer: A
Ch.17
Explanation: A) Each shareholder receives one new share for each two shares owned. A holder of two shares will end up holding three shares, and thus the stock split is three for two, or 3:2.

25) A large publishing firm specializing in college textbooks wishes to expand into online delivery of its materials. In order to facilitate this, it invests in a number of small start-up companies that deliver college courses online and uses these companies to start diversifying the delivery of its content. Which of the following best describes the role of the publishing firm as described above?
A) a venture capitalist
B) an institutional investor
C) a corporate investor
D) a family investor
E) a sovereign wealth fund
Answer: C
Ch.14

Use the table for the question(s) below.

Jeremy founded a company. He issues 200,000 shares of series A stock for his own $100,000 investment. He then goes through three further rounds of investment, as shown below:

Round	Price	Number of Shares
Series B	$1.00	500,000
Series C	$1.50	300,000
Series D	$2.25	400,000

26) What is the post-money valuation for the series D funding round?
A) $1.4 million
B) $1.95 million
C) $2.025 million
D) $2.85 million
E) $3.15 million
Answer: E
Ch.14
Explanation: E) Total shares = 500,000 + 300,000 + 400,000 + 200,000 = 1.4 million;
company valuation = $2.25 × 1.4 million = $3.15 million

27) Which of the following best describes a firm commitment IPO?
A) The underwriter purchases the entire issue at a small discount and then resells it at the offer price.

B) The underwriter sells new issues directly to the public in an online auction.
C) The underwriter tries to sell the stock for the best possible price but does not guarantee that the stock will be sold.
D) The underwriter solicits bids from investors and chooses the highest price at which there is sufficient demand to sell the entire issue.
E) The underwriter sets a deliberately low price to ensure the entire issue is sold.
Answer: A
Ch.14

28)

Price ($)	Number of Shares Bid
5.00	600,000
5.25	700,000
5.50	850,000
5.75	800,000
6.00	650,000
6.25	400,000
6.50	150,000

Felicity Industries is selling 2 million shares of stock in an auction IPO. At the end of the bidding period they have received the bids shown above. Which of the following is closest to the price at which the shares will be offered?
A) $5.00
B) $5.25
C) $5.75
D) $6.00
E) $6.25
Answer: C
Ch.14
Explanation: C) Cumulative shares = 150,000 + 400,000 + 650,000 + 800,000 = 2 million; hence, $5.75
Diff: 1 Type: MC

29) An IPO is offered at $23 per share for 12 million shares. The IPO underwriters had a spread of 6%. What proceeds did the firm receive from the IPO?
A) $259 million
B) $276 million
C) $260 million
D) $293 million
E) $270 million
Answer: A
Ch.14
Explanation: A) Amount per share = $23 × (1 - 0.06) = $21.62
Total proceeds = $21.62 × 12 million = $259.4 million
30) Hargrave Kitchen & Bath has 6 million shares outstanding at a price of $33.25 per share. The company has decided to raise capital through a rights issue. All shareholders will be issued one right

per share. For every five rights held by the stockholder, they can buy one share at a price of $33.25. How much money will this raise, if all shareholders exercise their rights?
A) $30 million
B) $33.25 million
C) $234.4 million
D) $39.9 million
E) $199.5 million
Answer: D
Ch.14
Explanation: D) $33.25 × 6 / 5 = $39.9 million

31) A call option on a stock has an exercise price of $14. If the stock price at expiration is $13.50, what is the option payoff for a long call position?
A) $0.50
B) $0
C) -$0.50
D) $13.50
E) $14
Answer: B
Ch.13
Explanation: B) Stock price < Exercise price, option is not exercised.

32) You pay $3.25 for a call option on Luther Industries that expires in three months with a strike price of $40.00. Three months later, at expiration, Luther Industries is trading at $41.00 per share. Your profit per share on this transaction is closest to:
A) -$1.00
B) $1.00
C) -$2.25
D) $2.25
E) $0
Answer: C
Ch.13
Explanation: C) At expiration you will choose to exercise the option since the option is in-the-money. Your payoff will be $41 - $40 = $1 for exercising the option; however, to calculate the profit we need to subtract the option premium. So, profit = $1.00 - $3.25 = -$2.25.
Diff: 2 Type: MC

33) The value of an otherwise identical call option is _____ if the strike price the holder must pay to buy the stock is _____.
A) higher, higher
B) lower, lower
C) higher, lower
D) unchanged, lower
E) unchanged, higher
Answer: C
Ch.13

34) An options contract gives the owner the _____ but not the _____ to buy or sell an asset at a

fixed price at some future date.
A) obligation, right
B) right, option
C) right, obligation
D) option, right
E) obligation, option
Answer: C
Ch.13

35) A bond issue that does not trade on the public market but instead is sold to a small group of investors is called a(n)
A) private placement.
B) syndicated bond.
C) revolving line of credit.
D) syndicated bank loan.
E) Eurobond.
Answer: A
Ch.15

36) A typical company has many types of shareholders, from individuals holding a few shares, to large institutions that hold very large numbers of shares. How does a financial manager ensure that the priorities and concerns of such disparate stockholders are met?
A) The financial manager should seek to make investments that do not harm the interests of the stockholders.
B) The decisions taken by the financial manager should be solely influenced by the benefit to the company since, by maximizing its fitness, he or she will also maximize the benefits of that company to the shareholders.
C) The financial manager should consider the interests and concerns of large shareholders a priority, so the needs of those who hold a controlling interest in the company are met.
D) In general, all shareholders will agree that they are better off if the financial manager works to maximize the value of their investment.
E) The financial manager will consider the priorities of all the shareholders at the annual shareholders' meeting.
Answer: D
Ch.1

37) Which of the following are major duties of a financial manager?
I. To make investment decisions
II. To make financing decisions
III. To manage cash flow from operating activities
A) I only
B) I and II only
C) I and III only
D) II and III only
E) I, II and III
Answer: E
Ch.1

38) How do the shareholders of most corporations exercise their control of that corporation?
A) by voting on issues that concern them
B) by electing members of a board of directors
C) by vetting the decisions of the board of directors
D) by providing oversight of the day-to-day running of the corporation
E) by hiring other shareholders to run the corporation
Answer: B
Ch.1

39) A merger in which the target's industry buys or sells to the acquirer's industry is called a(n)
A) horizontal merger.
B) vertical merger.
C) conglomerate merger.
D) industrial merger.
E) complementary merger.
Answer: B
Ch.24

40) The fact that a large company can enjoy savings from producing goods in high volume that are not available to a small company is called
A) economies of scale.
B) horizontal integration.
C) vertical integration.
D) economies of scope.
E) monopoly gains.
Answer: A
Ch.24

41) Consider two firms, ABC and XYZ. Both companies will either make $5 million or lose $2 million every year with equal probability. The companies' profits are perfectly negatively correlated, so that in any year, one company makes $5 million and the other loses $2 million. The two firms decide to enter into a merger and combine operations. What are the expected after-tax profits of the combined company in any year, assuming a corporate tax rate of 35% and no tax loss carryback or carryforward, if they are run as two independent divisions?
A) $6 million
B) $3.25 million
C) $6.5 million
D) $3 million
E) $1.95 million
Answer: E
Ch.24
Explanation: E) The combined company will earn 5 - 2 = $3 million every year.
After-tax profit = (1 - .35) × (3) = $1.95 million

42) Consider two firms, Bob Company and Cat Enterprises, both with earnings of $10 per share and 5 million shares outstanding. Cat is a mature company with few growth opportunities and a stock price

of $25 per share. Bob is a new firm with much higher growth opportunities and a stock price of $40 per share. Assume Bob acquires Cat using its own stock and the takeover adds no value. In a perfect capital market, how many shares must Bob offer Cat's shareholders in exchange for their shares?
A) 1 share of BobCat for each share of Cat Enterprises
B) 0.625 shares of BobCat company for each share of Cat Enterprises
C) 1.6 shares of BobCat company for each share of Cat Enterprises
D) 0.3846 shares of BobCat company for each share of Cat Enterprises
E) 1.25 shares of BobCat company for each share of Cat Enterprises
Answer: B
Ch.24
Explanation: B) The post-takeover value of BobCat is the sum of the values of the two separate companies: (5 × $25) + (5 × $40) = $325 million. At its pretakeover price of $40, Bob must issue enough shares to pay Cat shareholders $125 million. $125/$40 = 3.125 million shares. the exchange ratio is the ratio of issued shares to exchanged shares = 3.125/5 = 0.625, so each Cat shareholder will get 0.625 shares of BobCat for each 1 share of Cat.

43) Barlow Manufacturing has announced plans to acquire Hull Enterprises. Barlow is trading for $31.50 per share and has a premerger value of $12 billion, while Hull is trading for $21.75 per share and has a premerger value of $4 billion dollars. If the projected synergies from the merger are $675 million, what is the maximum cash offer per share that Barlow could make and still generate a positive NPV?
A) $48.20
B) $21.75
C) $53.33
D) $25.42
E) $17.55
Answer: D
Ch.24
Explanation: D) Exchange ratio $< \frac{P_T}{P_A}\left(1+\frac{S}{T}\right) = \frac{\$21.75}{\$31.50}\left(1+\frac{.675}{4}\right) = 0.807$

0.807 × 31.50 = $25.42
Diff: 1 Type: MC

44) Sol Company has announced plans to acquire Luna Corporation by swapping 1.2 shares of Sol stock for each share of Luna stock. After the announcement, Sol traded for $41 per share, and Luna traded for $48 per share. Assuming the takeover is successful, which of the following is the most appropriate merger-arbitrage strategy?
A) Buy 100 shares of Luna, short sell 120 shares of Sol.
B) Buy 120 shares of Luna, short sell 100 shares of Sol.
C) Buy 100 shares of Sol, short sell 100 shares of Luna.
D) Buy 100 shares of Sol, short sell 120 shares of Luna.
E) Buy 120 shares of Sol, short sell 100 shares of Luna.
Answer: A
Ch.21
Explanation: A) Implied value of Luna = 1.2 × 41 = $49.20 per share.

Buy 100 shares of Luna, short sell 120 shares of Sol.
Profit = 120 × 41 - 100 × 48 = $120
Once transaction is completed, receive 120 shares of Sol for 100 shares of Luna to close short position.
Diff: 2 Type: MC

45) The risk that the firm will not have, or will not be able to raise, the cash required to meet the margin calls on its hedges is called
A) liquidity risk.
B) basis risk.
C) commodity price risk.
D) speculation risk.
E) margin risk.
Answer: A
Ch.21

46) The ability of a firm to pass on cost increases to its customers or revenue decreases to its suppliers is known as
A) a natural hedge.
B) vertical integration.
C) adverse selection.
D) operating insurance.
E) supply management.
Answer: A
Ch.21

47) A manufacturer of breakfast cereal is concerned about corn prices. The firm anticipates needing 1 million bushels of corn in one month. The current price of corn is $6.50 per bushel and the futures price for delivery in one month is $7.00 per bushel. The cost to store the corn for 1 month is $100,000. What should the firm do?
A) Hedge with futures for a total cost of $7,000,000.
B) Hedge with futures for a total cost of $6,900,000.
C) Buy the corn now and store for 1 month, for a total cost of $6,500,000.
D) Buy the corn now and store for 1 month, for a total cost of $6,600,000.
E) Wait one month and buy the corn at the market price in one month.
Answer: D
Ch.21
Explanation: D) 1,000,000 × $7.00 = $7,000,000 cost with hedging
1,000,000 × $6.50 = $6,500,000 cost of corn without hedging + $100,000 for storage = $6,600,000.
Diff: 2 Type: MC
Skill: Analytical

Use the table for the question(s) below.

Day	1	2	3	4	5
Futures Price	109	107	106	107	104

48) Suppose oil futures prices are as given in the above table (price per barrel). Suppose you buy 100 crude oil futures contracts, each for 1000 barrels of crude oil, at the current futures price of $108 per barrel on day 0. What is your cumulative profit/loss in your margin account by the end of day 5?
A) -$300,000
B) $300,000
C) $400,000
D) -$400,000
E) $0
Answer: D
Ch.21
Explanation: D) Since you are the buyer, you take a loss from the price decrease.
The cumulative mark-to-market loss per barrel is the futures price on day 5 - the original futures price = 104 - 108 = -$4 per barrel. For 100,000 barrels, the loss is $400,000.
Diff: 1 Type: MC

49) Suppose oil futures prices are as given in the above table (price per barrel). Suppose you sell 100 crude oil futures contracts, each for 1000 barrels of crude oil, at the current futures price of $108 per barrel on day 0. What is your profit/loss in your margin account from the end of day 4 to the end of day 5?
A) -$300,000
B) $300,000
C) $400,000
D) -$400,000
E) $0
Answer: B
Ch.21
Explanation: C) Since you are the seller, you benefit from the price decrease.
The mark-to-market gain per barrel is the day 4 futures prices - the futures price on day 5 = 107 -104 = $3 per

50) What is the percentage change in a 10-year zero-coupon bond with a duration of 10 years, when interest rates increase from 3% to 4%?
A) -9.2%
B) -10%
C) -9.8%
D) -10.4%
E) -8.7%
Answer: A
Ch.21
Explanation: A) Old Bond price = 100 / (1.03)^10 = $74.41

New Bond price = 100 / (1.04)^10 = $67.56
Percentage change = (67.56 - 74.41)/74.41 = -9.2%
Diff: 1 Type: MC