Econ 337
Midterm
100 points possible

Name ______________________________
Spring 2017
3/28/2017

Fill in the blanks (2 points each)

1. A put option contains the right to _________________ a futures contract.

2. A call option contains the right to _________________ a futures contract.

3. On Mar. 24, 2017, the July 2017 corn futures price was $3.63 per bushel. If a put option with a $3.70 strike price has a premium of 20 cents, what is the time value of the option?

   ____

4. If I take a short position in the futures market, then I have _________________ a futures contract.

5. A _________________ contract is a legally binding contract to make or take delivery of the commodity.

6. In a hedge, the net price will differ from the expected price only by the amount that the

   _________________ basis differs from the _________________ basis.

7. Hedging – holding equal and opposite positions in the _________________ and

   _________________ markets.

8. The _________________ is the predetermined price for the trade of futures contracts in an option.

9. On Mar. 24, 2017, the May 2017 corn futures price was $3.56 per bushel. If the corn cash price was $3.06 per bushel, then the basis is $__________________.

10. Futures reflect __________________ supply and demand; basis reflects __________________ supply and demand.

True or False (2 points each)

11. T F Basis = Futures price – Cash price

12. T F A corn futures contract covers 5,000 bushels.

13. T F Brokers are willing to make or take physical delivery because they are producers or users of the commodity.

14. T F Puts and calls are opposite positions in the same market.

15. T F A “bear” thinks prices will increase.

16. T F Speculators have no use for the physical commodity.

17. T F The only person guaranteed to make money on an options trade is the hedger.

18. T F Futures are not a “zero sum game” as more people lose money on futures than gain money.

19. T F Crop insurance is not subsidized by the federal government.

20. T F A “bull” thinks prices will increase.

21. T F Put and call option premiums are set by the CME Group, the entity that runs the futures and options markets.

Short Answer (4 points each)

22. I put on a short hedge using Nov. 2017 soybean futures on Mar. 24, 2017. To do that did I buy or sell a futures contract?

The futures price was $9.76 per bushel. If my expected basis is -$0.60 per bushel and the broker charges me a 2 cent per bushel commission, what is my expected price under the short hedge?

23. I purchased a Dec. 2017 corn put option with a $4.00 strike price. The premium was 43 cents. If my expected basis is -$0.20 per bushel and my broker charges me a 1 cent per bushel commission, what is my floor price with this option?

The Dec. 2017 corn futures prices was $3.80 when I purchased the option. What is the intrinsic value of the option?

24. For 2017, you have an expected corn yield of 180 bushels per acre on your farm, based on your previous corn yields. The spring time insurance price for corn is $3.96 per bushel. If you get 100 bushels per acre in 2017 and the harvest time price was $5.00 per bushel, what would be the insurance payment if you bought 80% yield insurance?

25. Name 4 of the 5 factors that affect the value of an option premium.

Matching (1 point each)

Answer questions matching the following action to the appropriate statement. Terms may be used more than once.

a) Sell a call option	c) Sell a put option	e) Sell a futures contract
b) Buy a call option	d) Buy a put option	f) Buy a futures contract

26. _____ Receive a premium, but maybe obligated to sell a futures contract at the strike price.

27. _____ Have the right, but not the obligation, to buy a futures contract at the strike price.

28. _____ Receive payment into a margin account if futures price increases.

29. _____ Receive payment into a margin account if futures price decreases.

30. _____ Have the right, but not the obligation, to sell a futures contract at the strike price.

31. _____ Receive a premium, but maybe obligated to buy a futures contract at the strike price.

Margins (12 points)

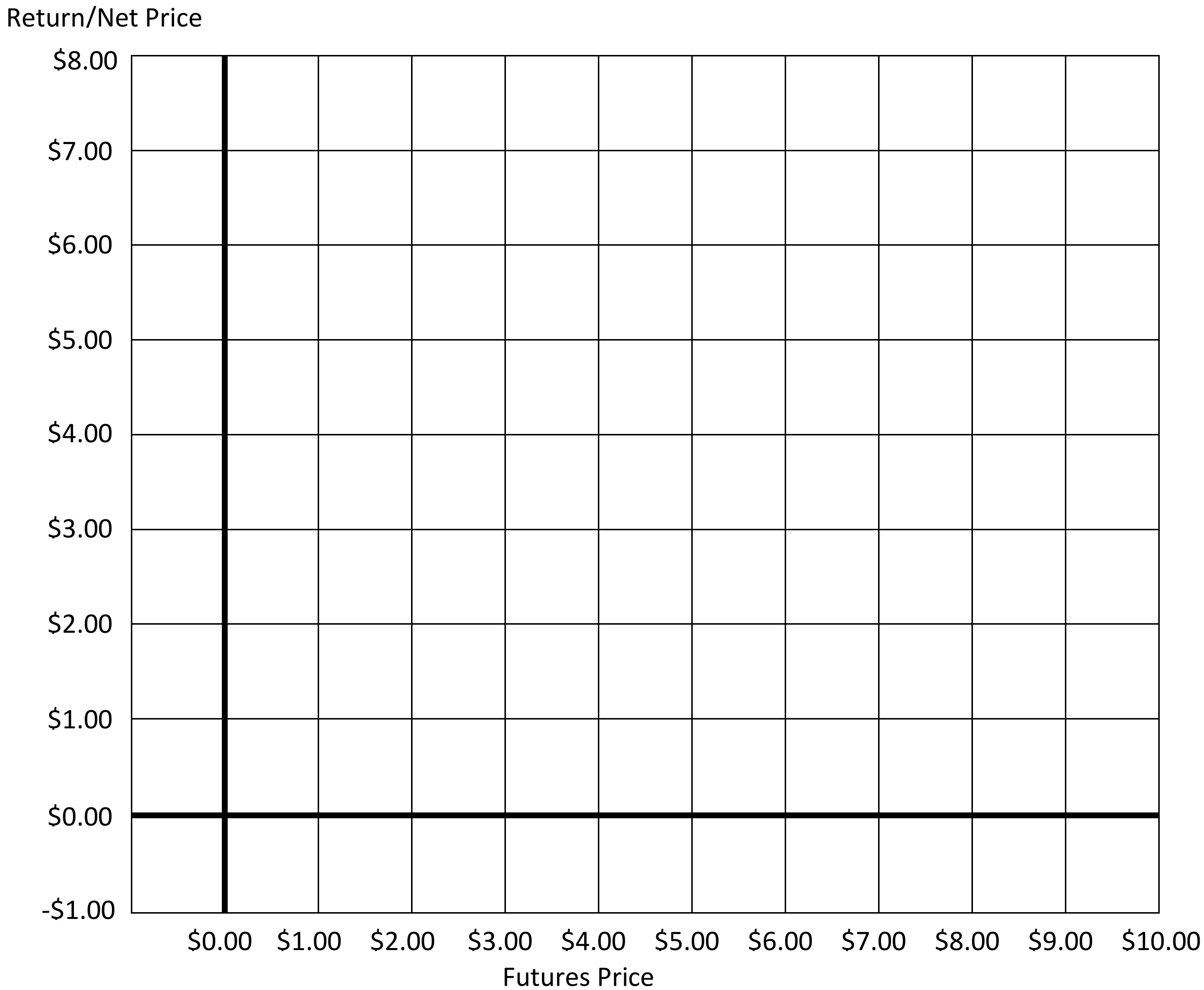
32. I am a hedger that went short on December 2017 corn on March 20, 2017 at $3.8625 per bushel. The initial margin requirement is $990. The maintenance margin is $900. Fill out my margin account for one futures contract.

Date	Futures Price	Gain/Loss	Margin Call	Account Balance
3/20/2017	$3.8625	X	X	$990.00
3/21/2017	$3.845			
3/22/2017	$3.82			
3/23/2017	$3.80			
3/24/2017	$3.795			

Math and Graph (16 points, please show your work)

33. A corn producer is using a hedge to protect against price risk. Her broker charges her a commission of 1 cent per bushel for each transaction. At the time, the Dec. 2017 corn futures price was $3.81. She expects a harvest time basis of -$0.30 per bushel.

Please graph the relevant cash price, futures return, and net price lines.



What is her expected price?

If the Dec. 2017 corn futures rises to $5.00, what is her expected net price?

If the Dec. 2017 corn futures falls to $3.00, but the harvest time basis improves to -$0.20, what is her expected net price?