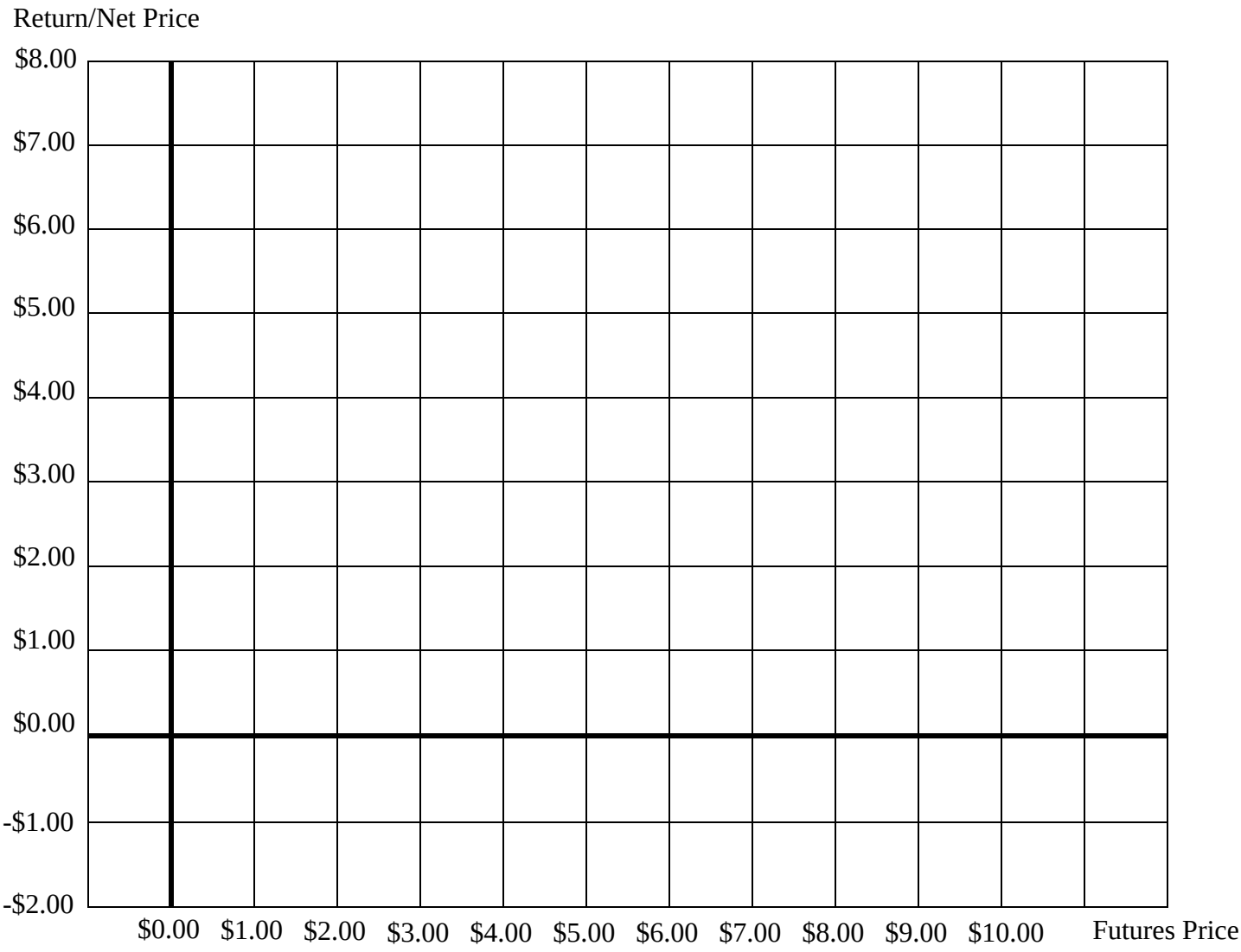
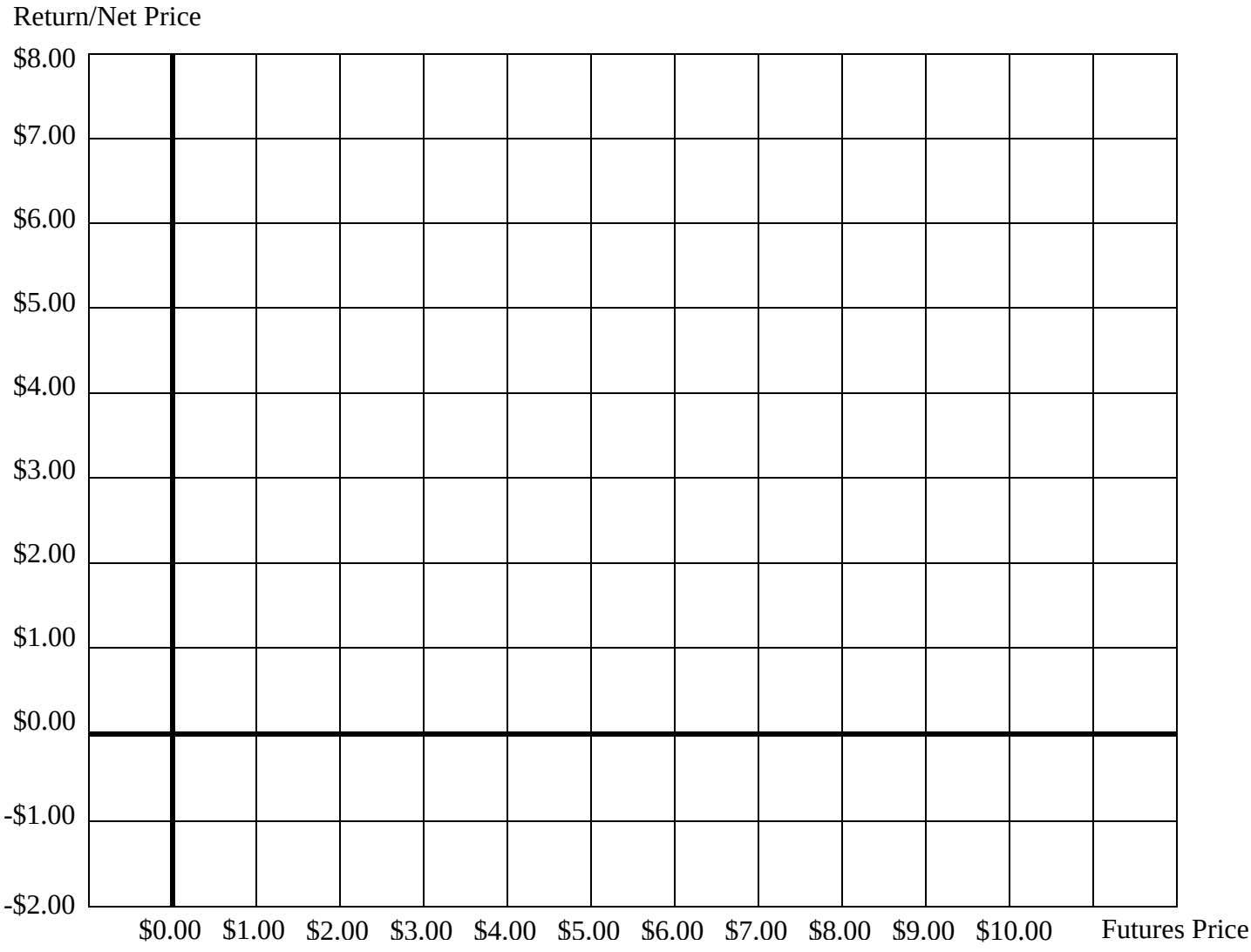
Econ 337 Spring 2018
Homework #3 Due 2/22/18
70 points

For the following questions use the attached futures and options data. Assume historical expected basis of -$0.30 per bushel and a commission of $0.01 per bushel for both crops.
Show the math and draw the graph.

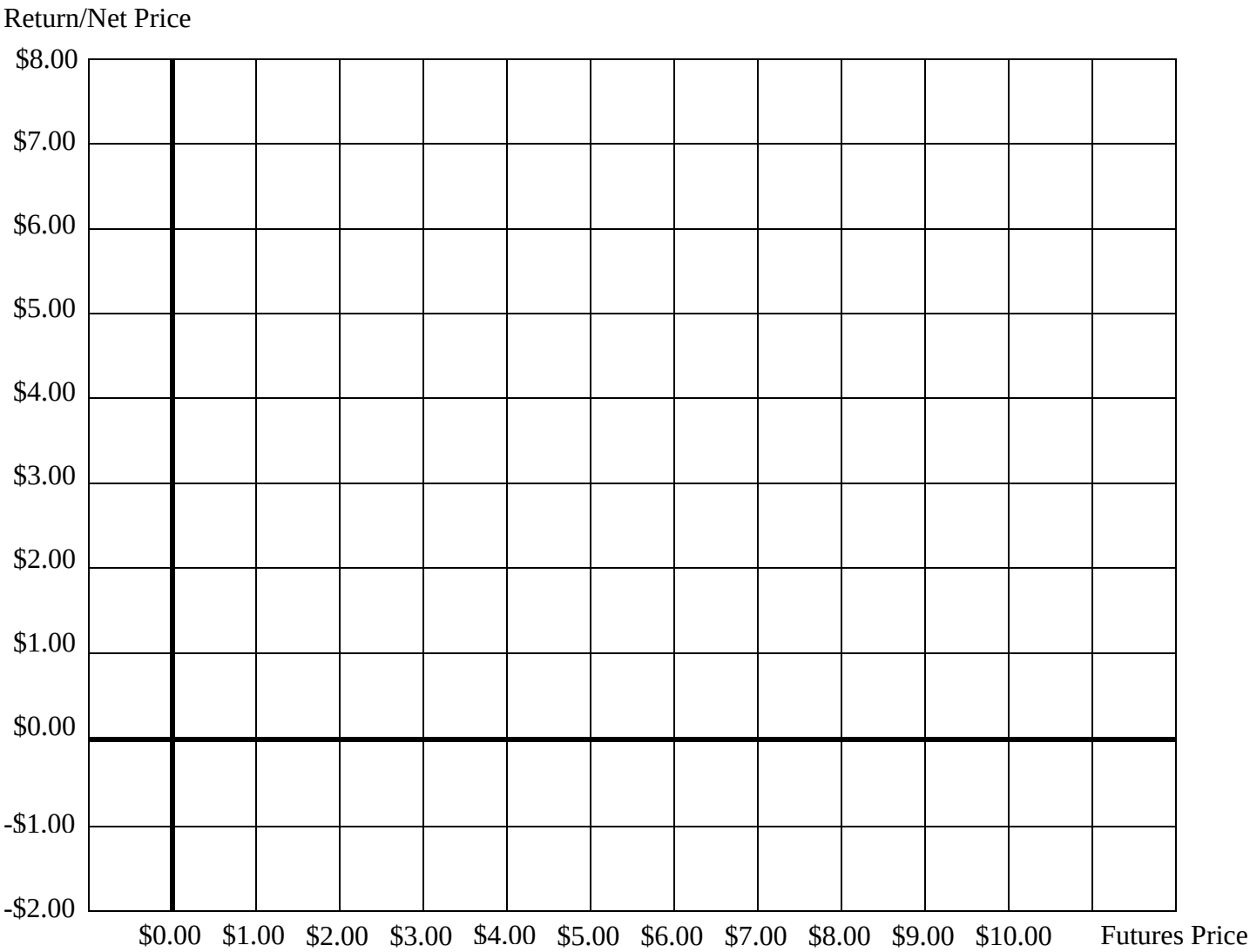
1. A speculator buys a $4.00 put option on Dec. 2018 corn futures. What does she pay for the option? At what price does she breakeven (where her return is equal to zero)? If the Dec. 2018 corn futures price falls to $3.00, what is her return?



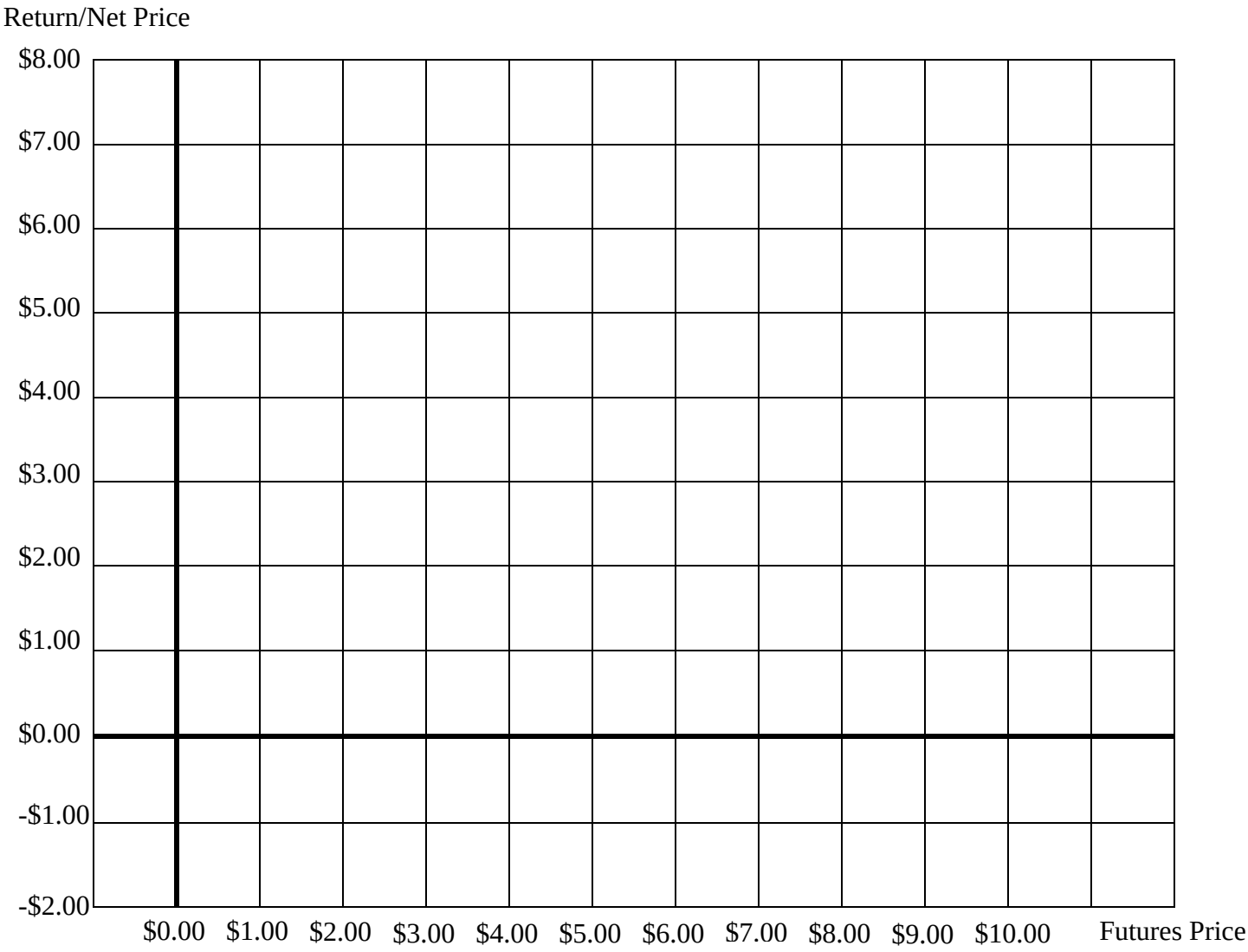
2. A hedger (producer) buys a $4.00 put option on Dec. 2018 corn futures. What is her floor price with the option in place? If the Dec. 2018 corn futures price falls to $3.00, what is her net price?



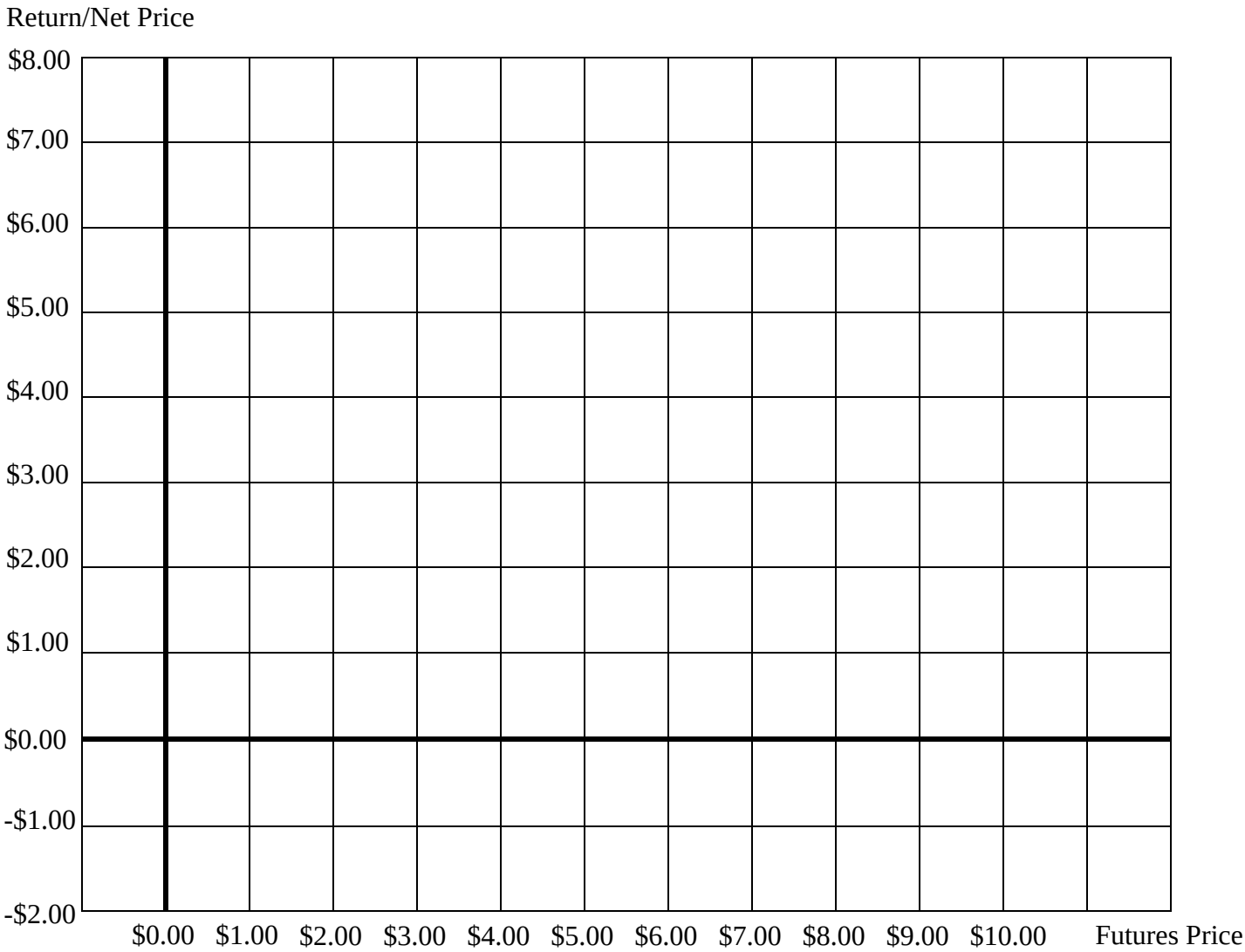
3. Instead of buying that $4.00 put option, the producer does a short hedge. What is her floor price with the short hedge in place? If the Dec. 2018 corn futures price falls to $3.00, what is her net price?



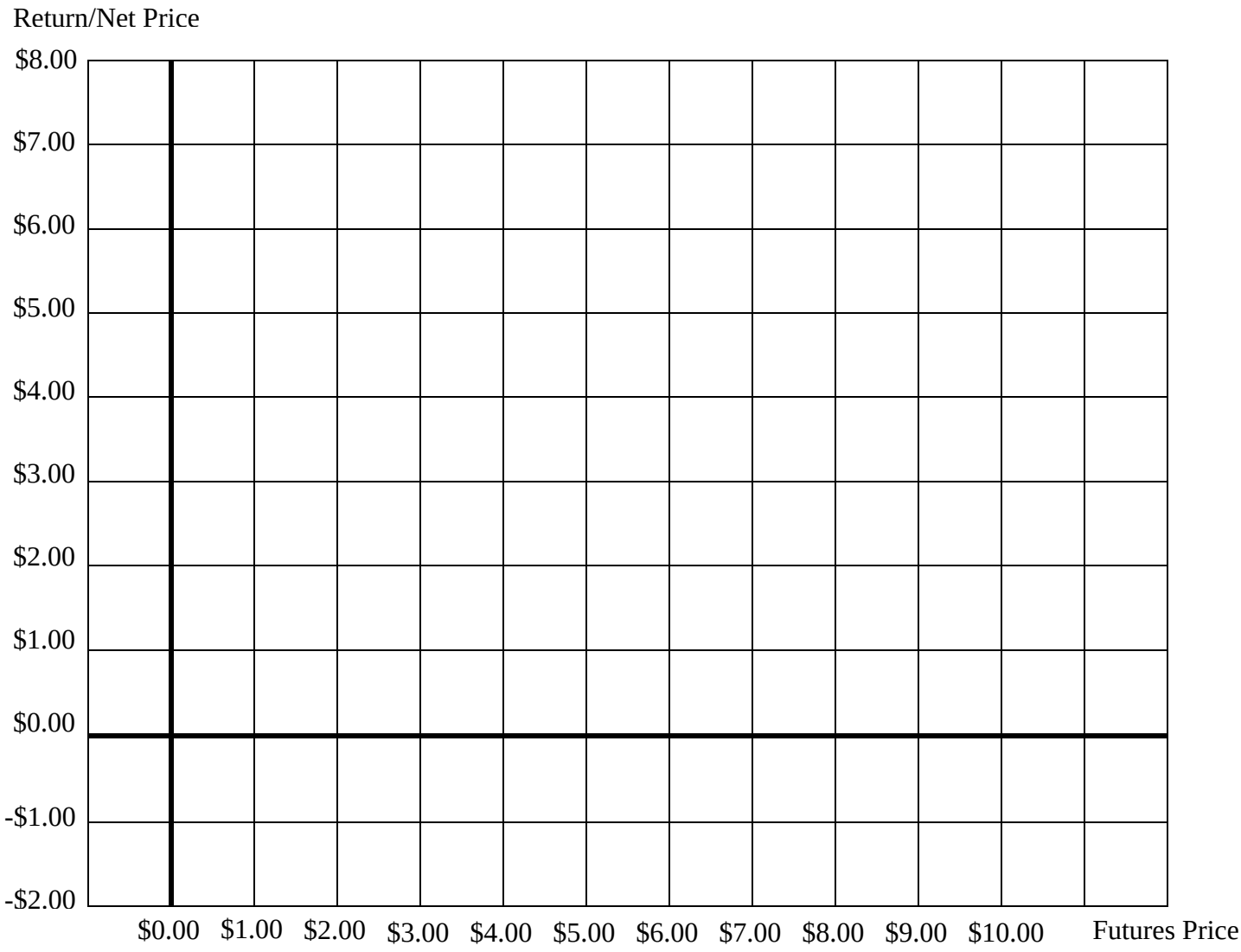
4. If the speculator in question 1 also sold a $5.00 call option on Dec. 2018 corn futures, does that change her breakeven price? If so, what is the new breakeven price?



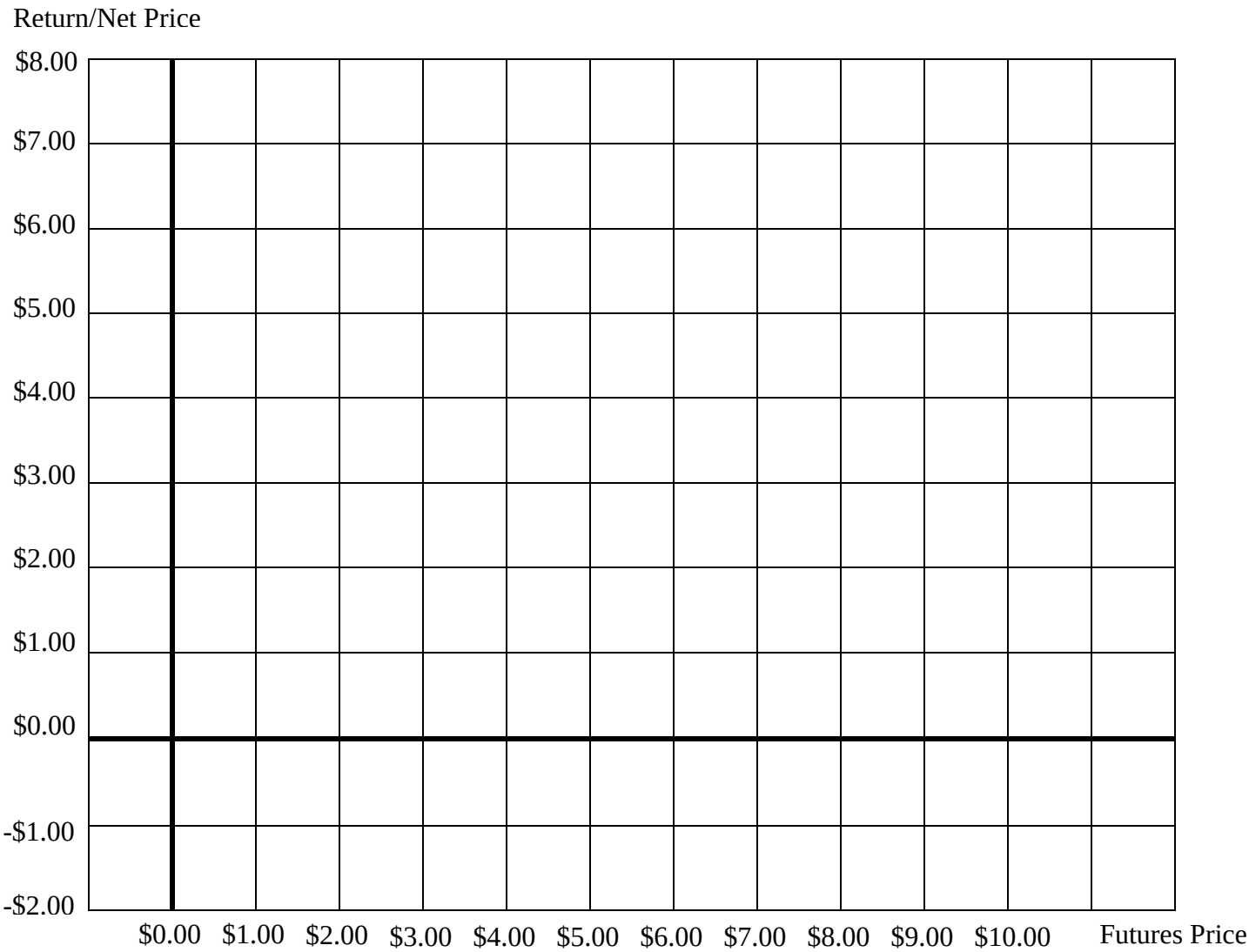
5. If the hedger in question 2 also sold a $5.00 call option on Dec. 2018 corn futures, does that change her floor price? If so, what is the new floor price?



6. A speculator buys a $4.00 call option on Dec. 2018 corn futures. What does she pay for the option? At what price does she breakeven? If the Dec. 2018 corn futures price falls to $3.50, what is her return? If the Dec. 2018 corn futures price rises to $5.00, what is her return?



7. A hedger (processor) buys a $4.00 call option on Dec. 2018 corn futures. What is her ceiling price with the option in place? If the Dec. 2018 corn futures price falls to $3.50, what is her net price?



All prices and premiums are listed in dollars per bushel

Dec. 2018 Corn Futures Price 3.9225

Options	Strike Price	Premium	Options	Strike Price	Premium
Put	3.20	0.01250	Call	3.20	0.75750
Put	3.30	0.02000	Call	3.30	0.66500
Put	3.40	0.03250	Call	3.40	0.57750
Put	3.50	0.05250	Call	3.50	0.49750
Put	3.60	0.08125	Call	3.60	0.42750
Put	3.70	0.12000	Call	3.70	0.36625
Put	3.80	0.16750	Call	3.80	0.31500
Put	3.90	0.22250	Call	3.90	0.27250
Put	4.00	0.28500	Call	4.00	0.23500
Put	4.10	0.35125	Call	4.10	0.20250
Put	4.20	0.42250	Call	4.20	0.17500
Put	4.30	0.49750	Call	4.30	0.15125
Put	4.40	0.57625	Call	4.40	0.13000
Put	4.50	0.65750	Call	4.50	0.11375
Put	4.60	0.74250	Call	4.60	0.09875
Put	4.70	0.82875	Call	4.70	0.08625
Put	4.80	0.91750	Call	4.80	0.07625
Put	4.90	1.00875	Call	4.90	0.05625
Put	5.00	1.10000	Call	5.00	0.05875
Put	5.10	1.19250	Call	5.10	0.05250
Put	5.20	1.28625	Call	5.20	0.04625